NAVAL ARCHITECTS DATA

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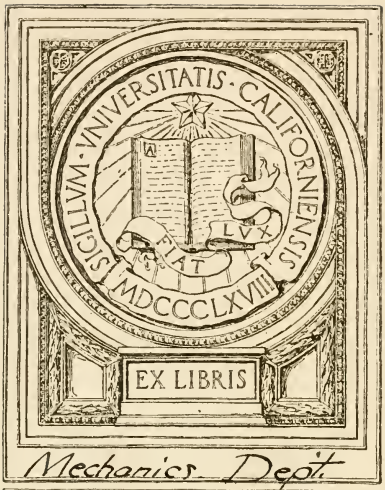

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PREFACE.

The skilled Naval Architect should be a master of approximations, and for this purpose reliable data of previous ships are invaluable. By the use of suitable coefficients, systematically tabulated, close approximations can generally be made for a new design. The tables of particulars will enable all the important features of a number of ships to be collected in a handy form, ready for immediate reference. First approximations in connection with new designs can readily be obtained by the use of the coefficients given on pages 2 and 3, and those added for other typical vessels by the user.

Various tables in common drawing office use have been included at the end of the book.

It is hoped that the book as a collection of practical information condensed for ready reference will be found useful to those engaged in the design of ships, and the Author would much appreciate any suggestions for improvement as a result of actual experience.

E. L. A.

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THE COMPILATION AND USE OF DATA.

Data is the most valuable tool of the Naval Architect, and it should be maintained in a state of maximum efficiency and readiness for use, by the addition of up-to-date examples.

Throughout the following pages, formulæ or coefficients, whether for approximation or for more accurate results, have been used with the simple facts of Length, Breadth, Draft, and Displacement, all of which are known from the earliest stages of a new design. The values of the coefficients in the formulæ given are for ordinary moderate-sized merchant ships. To get accurate results in any particular case these should be taken from a known vessel of similar type.

It is most important that where breadth is used, one breadth only should be dealt with, either the breadth moulded or the breadth extreme, not sometimes one and sometimes the other. The breadth moulded is the better form to use as it is the breadth on the designed lines and the Scrieve Board, and used in the Classification Rules. It is essential to have all data on one definite basis.

The portion on estimating the horse-power necessary to drive a new vessel at a required speed gives processes and worked-out examples of an actual case. This work is very generally done by the engineers, often by the "Admiralty Constant" method only. The trained shipyard man should preferably deal therewith since he alone has a clear mental picture of the ship's form.

In the Sheets of Particulars, the blank page before each vessel should be used for a sketch outline, elevation, and for notes of general details. The blank page after the vessel should be filled with lines offsets, and structural points of special interest.

It is most desirable that information of progress should be preserved, e.g. the dates of turning frames, erecting floors, erecting main frames, shell plating, shell riveting, etc. This information is most useful in ordering the material of subsequent vessels or arranging programmes of rotation of work.

	Values of K for Representative Vessels.			
ABBREVIATIONS— L = Length B.P. B = Br. Moulded. D = Draft. V = Knots. K = Any coefficient. W = Load displ.				
Data. Vessel. Page.	300′ P.B.F.			
DIMENSIONS—				
$\frac{L}{K}$ = B	7·06			
$\frac{L}{K}$ = Depth mld.	12·9			
$\frac{B}{K}$ = Depth mld.	1·83			
DISPLACEMENTS—				
Light wt. = K × Load displ.	·326			
Dead wt. = K × Load displ.	·673			
Light wt. = K × Dead wt.	·484			
SPEED—				
Load speed = $K\sqrt{L}$	·64			
CUBIC NUMBER—				
= L × B × Depth mld. of ship, plus (L × B × Depth) of erections	342850			
STEEL WEIGHT—				
(1) Tons = K × Total cubic number	·0038			
(2) Tons = K × Load displ.	·234			
MACHINERY WEIGHT—				
(1) Tons = Indic. h.p. ÷ K	5			
(2) Tons = Load displ. ÷ K	17·1			
(3) Tons = Light wt. ÷ K	5·6			
WOOD, OUTFIT, CEMENT (Standard Ships Less)—				
(1) Tons = K × Cubic number	·000063			
(2) Tons = K × Load displ.	·0336			
(3) Tons = K × Light wt.	·103			
LOAD DRAFT—				
= K × Depth mld.	·874			
LIGHT DRAFT—				
= K × Load draft	·368			
STATUTORY DECK—				
= Camber ÷ 6	6			
COEFFICIENTS—				
Displ. co. = W. × 35 ÷ L × B × D	·766			
Immd. mid area co. = Im. midship area ÷ B × D	·97			
Prismatic co. = W. × 35 ÷ L × Mid area	·79			
Displ. co. = Prism. co. × Mid area co.				
AREA L.W.L.—				
In sq. ft. = K × L × B	·84			
TONS PER INCH—				
In Sea water = L × B ÷ K	500			
TONNAGES—				
Nett reg. = K × Load displ.	·26			
Dead wt. = K × Nett reg.	·387			
Gross = K × Load displ.	·42			
Dead wt. = K × Gross	·625			
SHELL DISPLACEMENT—				
Percentage of moulded displ. Load	·7			
,, ,, ,, ,, Light	1·13			
CHANGE DRAFT, SEA AND FRESH—				
Inches change = $\frac{W}{63 \times \text{Tons per inch}}$				
Sea to fresh. Add above to draft				
Fresh to sea. Subtract from draft				

	Values of K for Representative Vessels.			
TRANSVERSE MOM. OF INERTIA—	300′ P.B.F.			
Calculation. Use ½ Ords. of W.L., cube, apply S.M.'s				
M. of I. = Sum functions × ⅓ × ⅓ of Com. int. × 2				
Approximation at L.W.L.				
M. of I. = K × LB³	·06			
TRANSVERSE B.M.—				
Calculation. B.M. = M. of I. ÷ Vol. displ.				
Approx. (1) B.M. = K × B² ÷ D	·08			
(2) B.M. = B.M. old ship × B² new ÷ B² old				
CENTRE OF GRAVITY—				
Light condition = K × D above base	·679			
CENTRE OF BUOY, ABOVE BASE—				
Calculation. Use areas of W.L.'s, apply S.M.'s				
Take moments about base				
C.B. = Sum mom. × Com. int. ÷ Sum functions				
Approx. Load = K × D	·54			
Light = K × Light draft	·556			
Morrish form = $D - \frac{1}{3}\left(\frac{D}{2} + \frac{\text{Vol.}}{\text{Area L.W.L.}}\right)$				
STATICAL STABILITY—				
Up to 15°. GZ = GM sin θ feet				
Ft. tons stat. stab. = W × GZ				
Atwood's formula— $GZ = \frac{v \times hh}{\text{Vol.}} - BG \sin\theta$				
As an aid to plotting curve of GZ				
Set up GM on 57·3°. Join to O				
Start of curve lies on this line				
FREE SURFACE OF WATER—				
Virtual loss of GM = $\frac{\text{M. of I. of surface}}{35\text{W}}$				
Distance C.G. moves by adding weight = $\frac{\text{Wt.} \times \text{Dist. from C.G.}}{\text{Displ. at finish}}$				
DYNAMICAL STABILITY—				
= Area of stat. curve up to the angle. N.B.—Angular interval in radians				
Moseley's formula for ft. tons dynam. stab. $= W\left[\frac{v(gh + g'h')}{\text{Vol.}} - BG \text{ versin } \theta\right]$				
TRIM—				
Calculation. M. of I. about cr. flotn. Use ½ ord. of W.L., apply S.M.'s, apply levers, apply levers again. Then cr. flotn. = $\frac{\text{Diff. first moments}}{\text{Sum functions}} \times$ Com. int.				
Gross M. of I. = Sum second mom. × ⅔ × C.I.³				
Nett M. of I. = Gross − Area × Dist. C.F.²				
Longl. B.M. = M. of I. ÷ Vol. displ.				
Approximns. M. of I. = KL³B	·053			
Longl. B.M. at L.W.L. = about length B.P.				
Normand LL B.M. = $\frac{\text{·0735 A}^2\text{L}}{\text{B} \times \text{Vol.}}$				
Moment to alter trim 1″ = $\frac{\text{W} \times \text{G.M.}}{12 \times \text{L}}$	480			
Longl. B.M. used for G.M. no appreciable error				

Moment to Alter Trim 1″ Approximations.	Values of K. for Representative Vessels.			
	300′			
(1) M.A.T. $= \frac{W}{K}$	11·7			
(2) M.A.T. $= \frac{K \times (\text{tons per in.})^2}{B}$	31·45			
(3) M.A.T. $= \frac{K \times (\text{area L.W.L.})^2}{B}$	·000178			
(4) M.A.T. $= K \times \frac{L^2}{D}$	1·084			
(5) M.A.T. $= K \times L^2 \times B$	·000126			
(6) M.A.T. $= \frac{K \times L \times W}{D}$	·0058			

Effect on Trim of Moving a Weight already on Board—

Inches trim $= \frac{\text{Tons weight} \times \text{Feet moved}}{\text{M.A.T. 1″}}$ (*a*) see below.

Effect on Trim of Adding a New Weight—

(1) Suppose placed over centre of flotation (i.e. C.G. of water line). Inches parallel sinkage = tons added ÷ tons per inch. Add this to draft each end of vessel.

(2) Suppose moved to actual position. Inches trim as (*a*) above. Allocate half to stem and half to stern if C.F. amidships. If C.F. not amidships, allocate as the proportion of B.P. length that C.F. is from ends, thus:—

$$\left.\begin{array}{l}\text{Stem emerges} = \frac{\text{C.F. from fore perp.}}{\text{Length B.P.}} \times \text{Total trim (}a\text{) above} \\ \text{Stern immerses} = \frac{\text{C.F. from aft perp.}}{\text{Length B.P.}} \times \text{Total trim}\end{array}\right\} \text{ or vice versa.}$$

Example.—Vessel 300′ × 42′ 6″ × draft 20′ 6″ aft 19′ 6″ ford. × 5586 tons displ. Cr. flot. 2′ abaft midships. If 50 tons added 80′ abaft C.F., what would be new draft?

Method.—Averaging three approxs. for M.A.T. 1″ gives 480 ft. tons.

$$\text{Tons per inch} = \frac{300 \times 42{\cdot}5}{500} = 25{\cdot}5.$$

(1) Parallel sinkage if added at cr. flot. $= \frac{50}{25{\cdot}5} = 2''$.

(2) Moved to position. $\text{Trim} = \frac{80' \times 50 \text{ tons}}{480} = 8\frac{1}{4}''$.

Stem emerges $\frac{152}{300} \times 8\frac{1}{4}'' = 4\frac{1}{4}''$.

Stern immerses $\frac{148}{300} \times 8\frac{1}{4}'' = 4''$.

	Draft aft.	Draft ford.
Original	20′ 6″	19′ 6″
Par. sinkage	2″	2″
	20′ 8″	19′ 8″
Trim	4″	$4\frac{1}{4}''$
Finished drafts	21′ 0″	19′ $3\frac{3}{4}''$

To Correct a Displacement for Excessive Trim by Stern.

Instead of applying mean draft to displ. scale, apply:—

If cr. flot. abaft midships, mean dr. $+ \left\{\frac{\text{Feet C.F. abaft} \times \text{Trim in in.}}{\text{Length B.P.}} \text{ in.}:\right\}$

If cr. flot. ford. of midships, mean dr. $- \left\{\frac{\text{Feet C.F. ford.} \times \text{Trim in in.}}{\text{Length B.P.}} \text{ in.}:\right\}$

Tchebycheff's Rule. Spacing of Ordinates.

	2 Ord.	3 Ord.	4 Ord.	5 Ord.	6 Ord.	7 Ord.	8 Ord.	9 Ord.	10 Ord.
After Body.									·9162
							·8974	·9116	·6873
					·8662	·8839	·5938	·601	·5000
			·79465	·8325	·4225	·5297	·4062	·5288	·3127
	·57735	·7071	·1876	·3745	·2666	·3239	·1026	·1679	·0838
Fore Body.	None	Midships	None	Midships	None	Midships	None	Midships	None
	·57735	·7071	·1876	·3745	·2666	·3239	·1026	·1679	·0838
			·79465	·8325	·4225	·5297	·4062	·5288	·3127
					·8662	·8839	·5938	·601	·5000
							·8974	·9116	·6873
									·9162

Above are the position of ordinates as fractions of half length of base.

Note.—That there are no end ordinates, and no midship ordinate in the even number cases.

Method.—Ordinates are spaced as above for the number selected to use. The lengths scaled, then area = simple total of lengths of ords. multiplied by total length of curve ÷ number of ordinates.

Example.—Required tons per inch of 300′ vessel at 20′ W.L. by 9 ord. rule.

Stations, ·9116 × 150′, ·601 × 150′, ·5288 × 150′, ·1679 × 150′, midships.
= 136·74′, 90·15′, 79·32′, 25·18′, midships.

These distances are set out each side of midships and ords. scaled.

Tch. 9 Ord.

Sec.	½ Ord.
4 A	7·81
3 A	20·12
2 A	20·65
1 A	21·16
MID	21·16
1 F	21·16
2 F	20·5
3 F	19·85
4 F	8·04
Sum .	160·45

Contrast.

Tons per in. = area ÷ 420

Simpson's 1st Rule.

Sec.	½ Ord.	S.M.	Function.
½	9·02	2	18·04
1	15·8	1½	27·70
2	20·12	4	80·48
3	21·16	2	42·32
4	21·16	4	84·64
5	21·16	2	42·32
6	21·16	4	84·64
7	21·16	2	42·32
8	19·96	4	79·84
9	14·30	1½	21·45
9½	8·10	2	16·20
		Sum .	535·95

T.P. In. $= 160{\cdot}45 \times \frac{300}{9} \times 2 \div 420$

$= \underline{25{\cdot}47 \text{ tons.}}$

T.P. In. $= 535{\cdot}95 \times \frac{30}{3} \times 2 \div 420$

$= \underline{25{\cdot}52 \text{ tons.}}$

A more regular spacing of ordinates can be obtained by adaptations of the 2 ord. or 3 ord. rule, thus:—

2 Ordinate Rule Adapted.—Divide base into ten equal parts, number off 0 to 11. Each side of 1, 3, 5, 7, 9 set out. ·5774 of one common interval. These are new Tchebycheff stations. Ten in all.

Area = total of ords. × length of W.L. ÷ 10.

3 Ordinate Rule Adapted.—Divide base into ten equal parts, number 0 to 11, using 1, 3, 5, 7, 9 as the half-length point of a piece two common intervals long. Apply the 3 ordinate rule five times, so getting an ordinate on each of these points and an ordinate ·7071 of a com. int. each side of each. Fifteen in all.

Area = total of ords. × length of W.L. ÷ 15.

Tchebycheff's rules, in addition to time saving, considerably reduce the liability to error by handling a minimum of figures.

ESTIMATING HORSE-POWER.

Indicated H.P. (I.H.P.) is power produced in the cylinders.
Effective H.P. (E.H.P.) ,, ,, required in a tow rope.
= I.H.P. less engine, shafting, and propellor losses.
E.H.P. = ·5 to ·55 of I.H.P. usually.

Hence in estimating, in cases where E.H.P. is obtained, the E.H.P. is doubled to give I.H.P.

The horse-power for a new vessel is obtained by using data of a similar ship, in formulæ given hereafter.

"*Similar Ships*" are those having a constant relation in their like linear dimensions, say one n times the other, and this leads to the following relationships:—

	Type Ship.	New Similar Ship.
Length	L_1	$L_2 = nL_1$
Breadth	B_1	$B_2 = nB_1$
Draft	Dr_1	$Dr_2 = nDr_1$
Wetted surface	S_1	$S_2 = n^2S_1$
Tons per inch	T_1	$T_2 = n^2T_1$
Displacement in tons	W_1	$W_2 = n^3W_1$

Corresponding speeds for similar ships are those which vary as the square root of the ratio of the linear dimensions n. Thus if the speed of a known 250′ ship is 10 knots and the corresponding speed of a new 300′ ship is required, we have $n = 300/250 = 1{\cdot}2$ and $\sqrt{n} = 1{\cdot}095$ so that the corresponding speed of the 300′ ship is $10 \times 1{\cdot}095 = 10{\cdot}95$ knots.

Conversely if the speed of a 300′ ship is 10·95 knots, the corresponding speed of a 250′ ship is $10{\cdot}95 \div \sqrt{1{\cdot}2} = 10$ knots.

At this corresponding speed the Residuary Resistance, R lbs. (which is the tota resistance less that due to wetted surface friction) varies as n^3, and as E.H.P. varies as R × V where V is speed in knots, E.H.P. varies as $n^3 \times n^{\frac{1}{2}}$ or $n^{7}/_{2}$. This is Froude's law of comparison.

The frictional resistance, however, does not follow the law of comparison being proportional to Area of wetted surface, i.e. to $W^{2}/_{3}$ and also to $V^{1{\cdot}83}$. The basis of the so-called "Admiralty Constant" is the assumption that resistance varies as wetted surface or $W^{2}/_{3}$ and also as V^2. E.H.P. and I.H.P. therefore, assuming the same propulsive efficiency, varies as $W^{2}/_{3}$ and as V^3, the formula being

$$\text{I.H.P.} = \frac{W^{2}/_{3} \times V^3}{C} \qquad \text{C being the Admiralty Constant.}$$

The above assumption is not far from the truth for the low speeds of ordinary merchant ships.

If we assume in going from one ship to another that the frictional resistance obeys the law of comparison, we may complete the above table as follows:—

	Type Ship.	New Similar Ship.
Resistance	R_1 lbs. at speed V	$R_2 = R_1 \times n^3$ lbs. at speed $V\sqrt{n}$
Power	$H.P_1$ = H.P. at speed V	$H.P_2 = H.P_1 \times n^{7}/_{2}$ at speed $V \times \sqrt{n}$

It must always be remembered that the real measure of a vessel's speed is the ratio of the speed to the square root of the length or $V/\sqrt{L}$. For a moderate economical speed $V/\sqrt{L}$ should not exceed a value of about ·60 for a block coefficient of ·8 and about ·7 for a block coefficient of ·7.

EXAMPLES OF ESTIMATING I.H.P.

Vessel 300′ × 42′ 6″ × 23′ 3″ depth × 20′ 4″ draft × 5650 tons displacement.

1. By Use of Admiralty Constant Formula, viz.:—

$$\text{I.H.P.} = \frac{W^{2}/_{3} \times V^3}{C}.$$

Sir E. H. T. d'Eyncourt gave (I.N.A., 1901) the following values of C for an economical speed:—

Length in ft. . .	200	300	400	500	600
Constant . . .	225	256	278	295	310

Common values for various vessels are—

Trawlers.	Small Cargo Vessels.	Large Cargo Vessels.	Fine Fast Vessels.
130	230	Up to 300	270

By using a constant of 256 we obtain for the above vessel at 11 knots ($V/\sqrt{L}$ = ·635 block coefficient = ·76).

$$\text{I.H.P} = \frac{5650^{2}/_{3} \times 11^{3}}{256} = \underline{1650.}$$

The following is the easiest method of working this out by the aid of logarithms (*see* tables).

$$\begin{aligned}
\log 5650 &= 3{\cdot}7520 \\
\log (5650)^{2}/_{3} &= \tfrac{2}{3}(3{\cdot}7520) = 2{\cdot}5013 \\
\log 11 &= 1{\cdot}0414 \\
\log (11)^{3} &= 3(1{\cdot}0414) = 3{\cdot}1242 \\
& \qquad\qquad 5{\cdot}6255 \\
\log 256 &= \qquad\quad 2{\cdot}4082 \\
& \qquad\qquad 3{\cdot}2173 \\
3{\cdot}2173 &= \log 1650
\end{aligned}$$

Ans. 1650 H.P.

If it is preferred not to use logarithms, we can proceed as follows:—

$$\begin{aligned}
5650^{2} &= 31{,}922{,}500 \\
\sqrt[3]{31{,}922{,}500} &= 317{\cdot}5 \text{ from the tables.} \\
\therefore \quad 5650^{2}/_{3} &= 317{\cdot}5 \\
11^{3} &= 1331.
\end{aligned}$$

$$\therefore \quad \frac{5650^{2}/_{3} \times 11^{3}}{256} = \frac{317{\cdot}5 \times 1331}{256} = 1650.$$

2. By Use of Midship Section Method where

$$\text{I.H.P.} = \frac{\text{Immersed Mid. Sec. Area} \times V^{3}}{K}.$$

This method is now seldom used as the area of the immersed midship section has no relation either to frictional or residuary resistance.

$$\text{I.H.P.} = \frac{838{\cdot}6 \times 11^{3}}{670} \text{ where 670 is assumed value of K}$$

$$= \underline{1665.}$$

3. Modern Midship Section Method:—

$$\text{I.H.P.} = \frac{W \times V^{3}}{L \times \sqrt[4]{\text{Mid. Area}} \times K^{1}}$$

where K^{1} is a constant having the following values:—

Trawler	2·3
Small Cargo	2·5
Larger ,,	2·7 to 2·8
Fine fast	2·0

$$\text{I.H.P.} = \frac{5650 \times 11^{3}}{300 \times \sqrt[4]{838} \times 2{\cdot}8}$$

$$= \underline{1660.}$$

4. Direct Calculation of the Various Items of Resistance, viz. Frictional, Air, Wave-making:—

$$\text{I.H.P.} = 2 \times \text{E.H.P.} = 2 \times \cdot00307 \times R \times V$$

where R is in lbs. and V is in knots.

(*a*) *Frictional Resistance.*—

Frictional resistance $= f.\ S.\ V^{1\cdot83}$ lbs.

where S wetted surface and f has the following Tideman's values which contain an allowance for eddy making.

Length in feet.	100	200	300	400	500
f	·0097	·00944	·00923	·0091	·00904

(*b*) *Air Resistance.*—

$$\text{Air resistance} = \cdot005\ A.\ V^2$$

where A = area of all surfaces head on to wind.

V = speed of wind in knots relative to the ship.

(Generally taken for a calm day, i.e. V is speed of ship.)

(*c*) *Wave-making Resistance.*—

Taylor's formula for wave-making resistance for values of $V\sqrt{L}$ up to 0·9

$$= 12\cdot5 \times b \times \frac{W}{L^2} \times V^4 \quad \text{where } b \text{ is block coeff.}$$

For the ship in question (S = 20200 sq. ft. A = 950 sq. ft.)

(*a*) Frictional resistance $= \cdot00923 \times 20200 \times (11)^{1\cdot83}$
$= 15010$ lbs.

(*b*) Air resistance $= \cdot005 \times 950 \times (11)^2$
$= 575$ lbs.

(*c*) Wave-making resistance $= 12\cdot5 \times \cdot76 \times \frac{5650}{(300)^2} \times 11^4$
$= 8730$ lbs.

Total resistance $= 15010 + 575 + 8730$
$= 24\cdot315$ lbs.

E.H.P. $= \cdot00307 \times 24315 \times 11$
$= 821$

I.H.P. $= 1642$

5. By Use of the Extended Law of Comparison:—

(*a*) By using the ratio of linear dimensions n

I.H.P. of new ship at speed $V\sqrt{n}$ = I.H.P. of type ship (at speed V) $\times (n)^{7}/_{3}$

(*b*) By using the ratio of displacements m

I.H.P. of new ship at speed $V(m^{1}/_{6})$ = I.H.P. of type ship (at speed V) $\times (m)^{7}/_{6}$

Thus for the 300′ ship previously worked out we use as a type ship a 290′ ship, 5130 tons which required 1450 I.H.P. at 10·82 knots.

(*a*) $= n = \frac{300}{290} = 1\cdot035 \qquad n^{\frac{1}{2}} = 1\cdot017.$

Corresponding speed of 290′ ship $= 11 \times \frac{1}{1\cdot017} = 10\cdot82$ knots.

$\therefore$ I.H.P. of 300′ ship at 11 knots $= 1450 \times (1\cdot035)^{7}/_{2}$
$= \underline{1635}$

(*b*) $m = \frac{5650}{5130} = 1\cdot101 \qquad m^{1}/_{6} = 1\cdot017$

I.H.P. of 300′ ship at 11 knots $= 1450 \times 1\cdot101 \times 1\cdot017$
$= \underline{1635}$

6. By Using the Admiralty Constant at *Corresponding Speeds*:—

This is virtually the same as 4.

For the 290′ ship at 10·82 knots $C = \frac{5130^{2}/_{3} \times 10{\cdot}82^{3}}{1450} = 260$

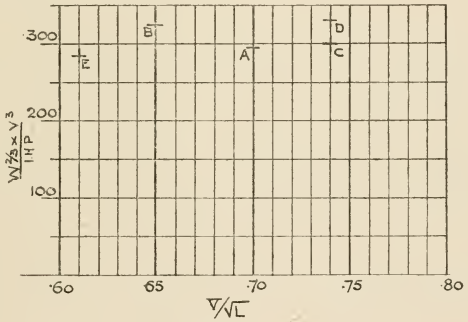
Using this coefficient for the 300′ ship at the corresponding speed of 11 knots we have I.H.P. $= \frac{5650^{2}/_{3} \times 11^{3}}{260} =$

1624.

The values of the I.H.P. for the new ship in the above examples are seen to be close to one another (leading to an average of 1647), but it must not be supposed that such close results will always be obtained. Data for a type ship may not always be available, especially at the corresponding speed to suit the new ship. And for the type of ship dealt with, it is not usual to obtain a series of runs on the measured mile from which the power at the "corresponding speed" can be obtained. Also, trial trips on the measured mile are not usual for this class of ship in the loaded condition.

In tabulating records of power and speed for future reference, it is strongly recommended that the Admiralty Constant be plotted on a base of $V/\sqrt{L}$, adding of course all the salient features of the ship. The more records one has of this nature the more easily can an estimate be made for a new design. If at all possible, two or more type ships should be used even if the proportions are not quite suitable.

The diagram herewith shows the values of the Admiralty Constant plotted in this way for the five ships given in table below, the particulars of which are taken from Mackrow & Woollard's pocket-book:—



	L	W	V	$V/\sqrt{L}$	B/D	Block coeff't.	H.P.	No. of Screws	Admiralty Constants.
A Cargo . .	410	11800	14·15	·70	2·0	·75	5000	2	295
B Oil Tanker .	470	17200	14·2	·65	2·0	·81	5000	1	325
C Ore Carrier .	320	5130	13·25	·74	2·3	·78	2365	1	300
D Cargo . .	279	4730	12·3	·74	2·0	·76	1577	1	330
E Training Ship	270	4370	10·0	·61	2·2	·64	932	2	285

These results are better than may ordinarily be expected, and the coefficients are higher than given previously. Each designer should collect and tabulate his own data, and for a new design select such coefficients as he is reasonably certain can be obtained. It is very usual to add a margin to the calculated I.H.P. for contingencies, say 5 per cent.

I.H.P. FROM CYLINDER SIZES.

The actual I.H.P. of a set of engines in a vessel is calculated from indicator diagrams taken at sea; from the following formula given by the North-East Coast Inst. of Engineers and Shipbuilders, the I.H.P. developable by a set of triple expansion engines of a given size may be calculated. Boiler pressure 180 lbs. per sq. inch.

$$\text{I.H.P.} = \frac{\text{D}^2\,\text{S.N.}}{700}.$$

D is the diameter of L.P. cylinder in inches.
S is the strike in feet.
N is the revolutions per minute obtained from $\text{N} = \frac{32(\text{S} + 4)}{\text{S}}$.

SIZE OF BUNKERS.

A safe figure for the coal consumption of modern cargo boat triple expansion engines is $1\frac{1}{2}$ lbs. per I.H.P. per hour.

Thus the consumption of the 300′ vessel for which 1650 I.H.P. has been calculated

$$= 1650 \times 1\tfrac{1}{2} \times 24 \text{ lbs. per day}$$
$$= 26\tfrac{1}{2} \text{ tons per day.}$$
$$\text{Or approximately} = \frac{\text{I.H.P.}}{62} \text{ tons per day.}$$

Hence the size of bunkers for a 10-day voyage would be 265 tons plus an allowance for reserve as the vessel cannot just arrive with swept bunkers, also some is used for winch steam, etc., in port. Hence provide say 300 tons.

STEAM WEIGHT OF MACHINERY.

The steam up, weight of a set of triple expansion cargo boat engines, including shafting, propeller, etc., for a known I.H.P.

$$= 4\tfrac{3}{4} \text{ to } 5 \text{ I.H.P. per ton.}$$

Thus in the 300′ vessel of 1650 I.H.P. the steaming weight

$$= \frac{1650}{5} = 330 \text{ tons.}$$

For passenger ships or extra full specification cases this must be added to as necessary. The donkey boiler water is regarded as non-existent at sea and is not included in the shipbuilder's light weight of ship.

WETTED SURFACE FORMULA.

Examples.—For 300′ vessel 5650 tons displacement 20′ 4″ draft

$$\text{Denny's formula} = (1{\cdot}7 \text{ L} \times \text{Dr.}) + \frac{\text{vol.}}{\text{dr.}}$$
$$= (1{\cdot}7 \times 300 \times 20{\cdot}33) + \frac{35 \times 5650}{20{\cdot}33}$$
$$\textit{Result} = 20{,}090 \text{ sq. ft.}$$
$$\text{Taylor's formula} = 15{\cdot}5\ \sqrt{\text{W.L.}}$$
$$= 15{\cdot}5\ \sqrt{5650} \times 300$$
$$\textit{Result} = 20{,}180 \text{ sq. ft.}$$

Mean area 20,135 sq. ft., say 20,200.

NAME_____

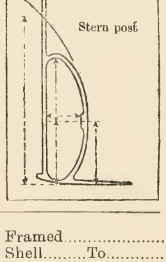
No._____ REG. DIMENSIONS_____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—	
Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—			
Coeff.		Depth mld.	
Centre disc.		Stat. dk.	
Summer		Stringer	
Ind. summer		Keel	
Winter		Total	
Winter, N.A.		Freebd.	
Fresh water		Load dr.	

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. Size	
Total			Galls. Tons	

SHIPBUILDERS' AUXILS.—			
Windlass, size	Maker		
Winches, ,,	,,	,,	,,
St. st. gear, size	,,	,,	,,
Screw ,, ,,	,,	,,	,,
Donkey blr., ,,	,,	,,	,,

ENGINES, Maker			
Type			
Cyl. diam.	Stroke		
Revs. trial	Sea		
I.H.P. ,,	,,		
Consumpt. trial	,,		

BOILERS, Maker			
Type	Number		
Size	Press		
Furnaces	Number		
Grate surf.	Heat surf.		
Funnel ht.	Diam.		
Proplr. diam.	Pitch		
,, area	Blades		

ELECTRIC INSTALLATION—			
Maker			
No. lights	Kilowatts		
Voltage	Amps		
Wireless			

BOATS—				
Lifeboats	×	×	Persons	
,,	×	×	,,	
Dinghy	×	×		

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—		ROLLINGS— Weight...	
Officers		Floors	
Engrs.		Tank frs.	
Seamen		,, R.F.	
Firemen		Main frs.	
Petty offrs.		,, ,,	
Stewards		U. dk. beams	
Pass. 1 cl.		L. ,, ,,	
,, 2 ,,		P.B.F. ,,	
,, 3 ,,		3 × 3 Sundry	
Total		Shell	

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME_____

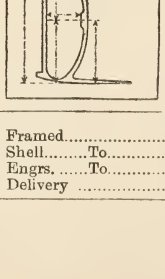
No._____ REG. DIMENSIONS_____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ...
Transom width .....
,, °/₀ br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total...
Ll. cr. buoy .....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. °/₀ of cubic ..... °/₀ of displ. .....
Machy. wt. °/₀ of I.H.P. ..... °/₀ of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register

Suez Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water

Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—
Windlass, size Maker
Winches, ,, ,,
,, ,, ,,
St. st. gear, size ,,
Screw ,, ,, ,,
Donkey blr., ,, ,,

ENGINES, Maker
Type
Cyl. diam. Stroke
Revs. trial Sea
I.H.P. ,, ,,
Consumpt. trial ,,

BOILERS, Maker
Type Number
Size Press
Furnaces Number
Grate surf. Heat surf.
Funnel ht. Diam.
Proplr. diam. Pitch
,, area Blades

ELECTRIC INSTALLATION—
Maker
No. lights Kilowatts
Voltage Amps
Wireless

BOATS—
Lifeboats × × Persons
,, × × ,,
Dinghy × ×

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
3 × 3 Sundry
Shell

Draft.	Displ.	Dd. Wt.	Tns. P.1.	Displ.Co.	Prism.Co.	Ll. C.B.	Vrt. C.B.	Trns.B.M.	Cr.Flot.	Ll.B.M.	M.A.T.1"

NAME

No. REG. DIMENSIONS

Type	
Class	
Length O.A.	B.P.
Breadth ex.	Mld.
Depth hold	Mld.
Load displ.	Draft
Speed on trial	Sea
Adm. con. trial	,,
Ratio br. : L.B.P.	Depth : draft
Light wt. : load	Lt. dr. : load
Ht. tw. dk.	
Poop ..... ×	Br. ..... × ..... Fsle. ..... × .....
Frame spacing	
Camber	
Length E. and B. space	
No. W.T. bhds.	
Depth dble. bottom	
Height bulwarks	
Joggled frames or shell	

NUMERALS—

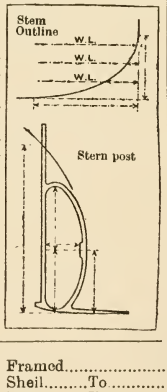
B + D	Little d
L (B + D)	
Propn. D : L upp. dk.	Lower
Equipment No.	Letter

MIDSHIP SECTION OUTLINE—

Rise floor	
Tumble home	
Bilge tanges up	In
,, along diag. to	W.L.
Tank bottom	Top
,, bracket height	
Floors every	Frame

LINES—

Sheer ford.	
,, aft	
Rule sheer	
Ht. rail	
Size stem	
,, post	
Stern overhang	
,, % length B.P.	
Transom width	
,, % br. mld.	
Knuckle depth	
,, overhang	
,, ,, % of total	
Ll. cr. buoy	
Shell displ. %	
Balance bodies	



DATES—

Order	Framed
Keel	Sheil. ..... To
Double botm.	Engrs. ..... To
	Delivery

ESTIMATING SUMMARY—

Cubic number	
Steel wt. % of cubic	% of displ.
Machy. wt. % of I.H.P.	% of displ.
Mean steel wt.	Tons.
,, machy. wt.	Tons.
Wood, outfit, cement	Tons.
Light wt.	Tons.
Dead wt.	Tons.
Load displ.	Tons.

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—

Immd. area	Speed
Total ,,	Angle
Diam. head	
Distance CG from pintles (G)	
Width to pintles (w)	
Depth immd. (d)	
Coeff. area : w × d	
Coeff. G : w	
Coeff. area : L × Draft ship	

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—

Launch	Displ.
Engined	,,
Finished	,,

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats ..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.	Ll. C.B.	Vrt. C.B.	Trns.B.M.	Cr.Flot.	Ll.B.M.	M.A T.I.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

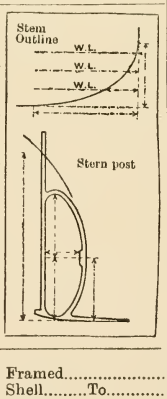
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d.....
L (B + D) .....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, % length B.P. ...
Transom width.....
,, % br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, % of total..
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm. .....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.1"

NAME _____

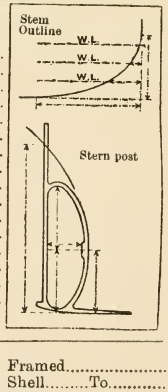
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... F'sle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

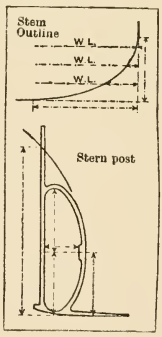
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P. .....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, % length B.P. ...
Transom width.....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total ..
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register

Suez Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water

Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	

Fresh water tanks
No. Size.
Galls. Tons

SHIPBUILDERS' AUXILS.—
Windlass, size Maker
Winches, ,,
,, ,,
St. st. gear, size
Screw ,, ,,
Donkey blr., ,,

ENGINES, Maker
Type
Cyl. diam. Stroke
Revs. trial Sea
I.H.P. ,, ,,
Consumpt. trial ,,

BOILERS, Maker
Type Number
Size Press
Furnaces Number
Grate surf. Heat surf.
Funnel ht. Diam.
Proplr. diam. Pitch
,, area Blades

ELECTRIC INSTALLATION—
Maker
No. lights Kilowatts
Voltage Amps
Wireless

BOATS—
Lifeboats × × Persons
,, × × ,,
Dinghy × ×

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
3 × 3 Sundry
Shell

Draft.	Displ.	Dd. Wt.	Tns. P.l.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME

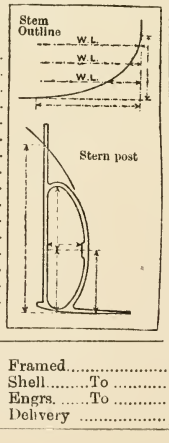
No. REG. DIMENSIONS

Type
Class
Length O.A. B.P.
Breadth ex. Mld.
Depth hold Mld.
Load displ. Draft
Speed on trial Sea
Adm. con. trial ,,
Ratio br. : L.B.P. Depth : draft
Light wt. : load Lt. dr. : load
Ht. tw. dk.
Poop × Br. × Fsle. ×
Frame spacing
Camber
Length E. and B. space
No. W.T. bhds.
Depth dble. bottom
Height bulwarks
Joggled frames or shell

NUMERALS—
B + D Little d
L (B + D)
Propn. D : L upp. dk. Lower
Equipment No. Letter

MIDSHIP SECTION OUTLINE—
Rise floor
Tumble home
Bilge tanges up In
,, along diag. to W.L.
Tank bottom Top
,, bracket height
Floors every Frame

LINES—
Sheer ford.
,, aft
Rule sheer
Ht. rail
Size stem
,, post
Stern overhang
,, % length B.P.
Transom width
,, % br. mld.
Knuckle depth
,, overhang
,, ,, % of total
Ll. cr. buoy
Shell displ. %
Balance bodies



DATES—
Order
Keel
Double botm.
Framed
Shell To
Engrs. To
Delivery

ESTIMATING SUMMARY—
Cubic number
Steel wt. % of cubic % of displ.
Machy. wt. % of I.H.P. % of displ.
Mean steel wt. Tons
,, machy. wt. Tons
Wood, outfit, cement Tons
Light wt. Tons
Dead wt. Tons
Load displ. Tons

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area Speed
Total ,, Angle
Diam. head
Distance CG from pintles (G)
Width to pintles (w)
Depth immd. (d)
Coeff. area : w × d
Coeff. G : w
Coeff. area : L × Draft ship

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch Displ.
Engined ,,
Finished ,,

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register

Suez Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water

Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—
Windlass, size Maker
Winches, ,, ,,
,, ,, ,,
St. st. gear, size ,,
Screw ,, ,, ,,
Donkey blr., ,, ,,

ENGINES, Maker
Type
Cyl. diam. Stroke
Revs. trial Sea
I.H.P. ,, ,,
Consumpt. trial ,,

BOILERS, Maker
Type Number
Size Press
Furnaces Number
Grate surf. Heat surf.
Funnel ht. Diam.
Proplr. diam. Pitch
,, area Blades

ELECTRIC INSTALLATION—
Maker
No. lights Kilowatts
Voltage Amps
Wireless

BOATS—
Lifeboats × × Persons
,, × × ,,
Dinghy × ×

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
3 × 3 Sundry
Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.	Ll. C.B.	Vrt. C.B.	Trns.B.M.	Cr. Flot.	Ll.B.M.	M.A T.1"

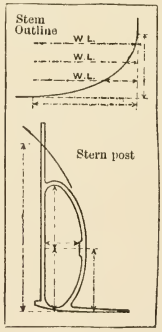
NAME _____

No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... „ .....
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds.....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
„ along diag. to.....W.L. .....
Tank bottom .....Top.....
„ bracket height.....
Floors every.....Frame.....



LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail.....
Size stem .....
„ post .....
Stern overhang .....
„ °/₀ length B.P. ...
Transom width.....
„ °/₀ br. mld. ..
Knuckle depth .....
„ overhang .....
„ „ °/₀ of total ..
Ll. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....

DATES—
Order .....
Keel .....
Double botm. .....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
„ machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
„ wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
„ „ engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total „ .....Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
„ side port.....	.....
„ „ stbd.	.....
„ tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... „ .....
Finished ..... „ .....

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. Size	
Total			Galls. Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS –

Lifeboats ..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.1'

NAME _____

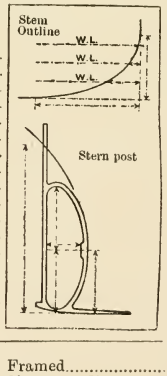
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....F'sle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width.....
,, % br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Lt. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm .....
Framed.....
Shell..... To.....
Engrs. ..... To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—
- Under deck .....
- Erections .....
- Excess hatches .....
- Light and air .....
- Gross .....
- Deduct, Crew .....
- W. ballast .....
- Prop. space .....
- Bosn. store .....
- Nett register .....

Suez ..... Panama .....

FREEBOARD—
- Coeff. .....
- Centre disc. .....
- Summer .....
- Ind. summer .....
- Winter .....
- Winter, N.A. .....
- Fresh water .....

Depth mld. .....
Stat. dk. .....
Stringer .....
Keel .....
Total .....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—
- Windlass, size ..... Maker .....
- Winches, ,, ... ,, ...
- ,, ,, ... ,, ...
- St. st. gear, size ..... ,, ...
- Screw ,, ,, ... ,, ...
- Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
- Type .....
- Cyl. diam. ..... Stroke .....
- Revs. trial ..... Sea .....
- I.H.P. ,, ... ,, ...
- Consumpt. trial ..... ,, ...

BOILERS, Maker .....
- Type ..... Number .....
- Size ..... Press .....
- Furnaces ..... Number .....
- Grate surf. ..... Heat surf. .....
- Funnel ht. ..... Diam. .....
- Proplr. diam. ..... Pitch .....
- ,, area ..... Blades .....

ELECTRIC INSTALLATION—
- Maker .....
- No. lights ..... Kilowatts .....
- Voltage ..... Amps .....
- Wireless .....

BOATS
- Lifeboats ..... × ..... × ..... Persons .....
- ,, ... × ..... × ..... ,, ...
- Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
- Officers .....
- Engrs. .....
- Seamen .....
- Firemen .....
- Petty offrs. .....
- Stewards .....
- Pass. 1 cl. .....
- ,, 2 ,, ...
- ,, 3 ,, ...
- Total .....

ROLLINGS— Weight...
- Floors .....
- Tank frs. .....
- ,, R.F. .....
- Main frs. .....
- ,, ,, ...
- U. dk. beams .....
- L. ,, ,, ...
- P.B.F. ,, ...
- 3 × 3 Sundry .....
- Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME_____

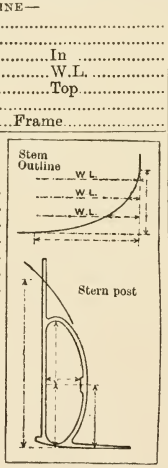
No._____ REG. DIMENSIONS_____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, °/₀ length B.P. ...
Transom width .....
,, °/₀ br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total ..
Lt. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm. .....

Framed.....
Shell..... To.....
Engrs. . To .....
Delivery .. ..

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	
Suez ..... Panama	

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. ..... Size	
Total			Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

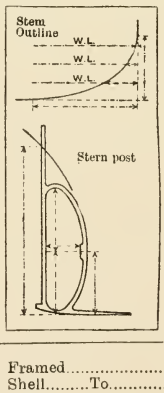
No. _____ REG. DIMENSIONS _____

Type
Class
Length O.A. ..... B.P.
Breadth ex. ..... Mld.
Depth hold ..... Mld.
Load displ. ..... Draft
Speed on trial ..... Sea
Adm. con. trial ..... ,,
Ratio br. : L.B.P. ..... Depth : draft
Light wt. : load ..... Lt. dr. : load
Ht. tw. dk.
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing
Camber
Length E. and B. space
No. W.T. bhds.
Depth dble. bottom
Height bulwarks
Joggled frames or shell

NUMERALS—
B + D ..... Little d
L (B + D)
Propn. D : L upp. dk. ..... Lower
Equipment No. ..... Letter

MIDSHIP SECTION OUTLINE—
Rise floor
Tumble home
Bilge tanges up ..... In
,, along diag. to ..... W.L.
Tank bottom ..... Top
,, bracket height
Floors every ..... Frame

LINES—
Sheer ford.
,, aft
Rule sheer
Ht. rail
Size stem
,, post
Stern overhang
,, % length B.P.
Transom width
,, % br. mld.
Knuckle depth
,, overhang
,, ,, % of total
Ll. cr. buoy
Shell displ. %
Balance bodies



DATES—
Order ..... Framed
Keel ..... Shell ..... To
Double botm. ..... Engrs. ..... To
Delivery

ESTIMATING SUMMARY—
Cubic number
Steel wt. % of cubic ..... % of displ.
Machy. wt. % of I.H.P. ..... % of displ.
Mean steel wt. ..... Tons
,, machy. wt. ..... Tons
Wood, outfit, cement ..... Tons
Light wt. ..... Tons
Dead wt. ..... Tons
Load displ. ..... Tons

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed
Total ,, ... Angle
Diam. head
Distance CG from pintles (G)
Width to pintles (w)
Depth immd. (d)
Coeff. area : w × d
Coeff. G : w
Coeff. area : L × Draft ship

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ.
Engined ..... ,,
Finished ..... ,,

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—

Coeff.	
Centre disc.	
Summer	
Ind. summer	
Winter	
Winter, N.A.	
Fresh water	
Depth mld.	
Stat. dk.	
Stringer	
Keel	
Total	
Freebd.	
Load dr.	

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.1"

NAME_____

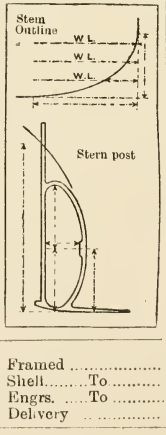
No._____ REG. DIMENSIONS_____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds.....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. ....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height .....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ..
Transom width .....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total ..
Ll. cr. buoy .....
Shell displ. °/₀ .....
Balance bodies .....



DATES—

Order.....	Framed .....
Keel	Shell.....To .....
Double botm.	Engrs. .....To .....
	Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d).....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished .... ,, ...

OWNERS _____

PORT _____

TONNAGE—
- Under deck .....
- Erections .....
- Excess hatches .....
- Light and air .....
- Gross .....
- Deduct, Crew .....
- W. ballast .....
- Prop. space .....
- Bosn. store .....
- Nett register .....

Suez..... Panama. .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. ..... Size	
Total			Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—
- Windlass, size..... Maker.....
- Winches, ,, ... ,, ...
- ,, ,, ... ,, ...
- St. st. gear, size..... ,, ...
- Screw ,, ,, ... ,, ...
- Donkey blr., ,, ... ,, ...

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....
- Type .....
- Cyl. diam. ..... Stroke .....
- Revs. trial ..... Sea .....
- I.H.P. ,, ... ,, ...
- Consumpt. trial..... ,, ...

BOILERS, Maker .....
- Type ..... Number .....
- Size ..... Press .....
- Furnaces ..... Number .....
- Grate surf. ..... Heat surf. .....
- Funnel ht. ..... Diam. .....
- Proplr. diam. ..... Pitch .....
- ,, area ..... Blades .....

ELECTRIC INSTALLATION—
- Maker .....
- No. lights..... Kilowatts .....
- Voltage..... Amps .....
- Wireless .....

BOATS –
- Lifeboats..... × ..... × ..... Persons .....
- ,, ... × ..... × ..... ,, ...
- Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.I.

NAME_____

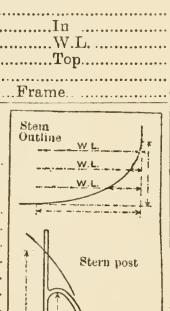
No._____ REG. DIMENSIONS_____

Type.....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D .....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height.....
Floors every.....Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem .....
,, post .....
Stern overhang.....
,, % length B.P. ...
Transom width.....
,, % br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, % of total ..
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm. .....
Framed.....
Shell.....To .....
Engrs. .....To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons .....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—
Under deck .....
Erections .....
Excess hatches .....
Light and air .....
Gross .....
Deduct, Crew .....
W. ballast .....
Prop. space.....
Bosn. store.....
Nett register .....
Suez.....Panama. .....

FREEBOARD—
Coeff. .....
Centre disc.....
Summer .....
Ind. summer.....
Winter.....
Winter, N.A.....
Fresh water .....

Depth mld.....
Stat. dk. .....
Stringer .....
Keel .....
Total .....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold	.....	.....
,, Hatch	.....	.....
No. 2 Hold	.....	.....
,, Hatch	.....	.....
No. 3 Hold	.....	.....
,, Hatch	.....	.....
No. 4 Hold	.....	.....
,, Hatch	.....	.....
No. 5 Hold	.....	.....
,, Hatch	.....	.....
No. 6 Hold	.....	.....
,, Hatch	.....	.....
Total	.....	.....

W. BALLAST—	Tons.
Fore peak	.....
No. 1 Tank	.....
,, 2 ,,	.....
,, 3 ,,	.....
,, 4 ,,	.....
,, 5 ,,	.....
,, 6 ,,	.....
Lower aft pk.	.....
Upper ,, ,,	.....
Total	.....

Fresh water tanks .....
No.....Size.....
Galls. .....Tons .....

SHIPBUILDERS' AUXILS.—
Windlass, size.....Maker.....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,,

ENGINES, Maker .....
Type .....
Cyl. diam. .....Stroke.....
Revs. trial .....Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial..... ,, ...

BOILERS, Maker .....
Type .....Number.....
Size .....Press .....
Furnaces.....Number.....
Grate surf.....Heat surf.....
Funnel ht. .....Diam.....
Proplr. diam.....Pitch .....
,, area .....Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights.....Kilowatts .....
Voltage.....Amps .....
Wireless .....

BOATS –
Lifeboats..... × ..... × .....Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1	.....	.....	.....
,, 2	.....	.....	.....
,, 3	.....	.....	.....
,, 4	.....	.....	.....
,, 5	.....	.....	.....
,, 6	.....	.....	.....

COMPLEMENT—
Officers.....
Engrs. .....
Seamen .....
Firemen .....
Petty offrs.....
Stewards .....
Pass. 1 cl.....
,, 2 ,, ...
,, 3 ,, ...
Total.....

ROLLINGS— Weight...
Floors .....
Tank frs. .....
,, R.F. .....
Main frs. .....
,, ,, ...
U. dk. beams .....
L. ,, ,, ...
P.B.F. ,, ...
3 × 3 Sundry .....
Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME_____

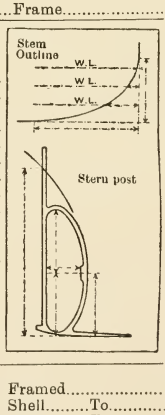
No._____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D) .....
Propn. D : L upp. dk.....Lower.....
Equipment No. .. ..Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height .....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem .....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ...
Transom width.....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total ..
Ll. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm. .....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tous.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size ..... Maker .....

Winches, ,, ... ,, ...

,, ,, ... ,, ...

St. st. gear, size ..... ,, ...

Screw ,, ,, ... ,, ...

Donkey blr., ,, ... ,, ...

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....

Type .....

Cyl. diam. ..... Stroke .....

Revs. trial ..... Sea .....

I.H.P. ,, ... ,, ...

Consumpt. trial ..... ,, ...

BOILERS, Maker .....

Type ..... Number .....

Size ..... Press .....

Furnaces ..... Number .....

Grate surf. ..... Heat surf. .....

Funnel ht. ..... Diam. .....

Proplr. diam. ..... Pitch .....

,, area ..... Blades .....

ELECTRIC INSTALLATION—

Maker .....

No. lights ..... Kilowatts .....

Voltage ..... Amps .....

Wireless .....

BOATS—

Lifeboats ..... × ..... × ..... Persons .....

,, ... × ..... × ..... ,, ...

Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

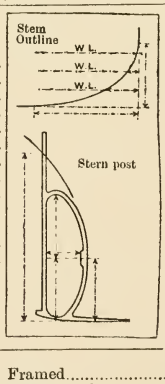
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D .....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ...
Transom width .....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total...
Ll. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed.....
Shell.....To .....
Engrs. .....To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons .....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G).....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats ..... × ..... × ..... Persons .....

,, ... × ..... × ..... ,, ...

Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— We'ight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.	Ll. C.B.	Vrt. C.B.	Trns.B.M.	Cr.Flot.	Ll.B.M.	M.A T.T
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

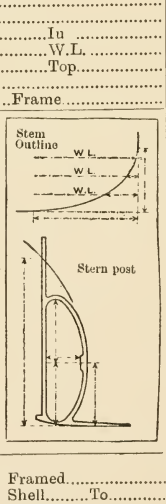
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. .....B.P. .....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....Iu .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height .....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ...
Transom width .....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total...
Ll. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm. .....

Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to piutles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register

Suez Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water

Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	

Fresh water tanks
No. Size
Galls. Tons

SHIPBUILDERS' AUXILS.—
Windlass, size Maker
Winches, ,, ,,
,, ,, ,,
St. st. gear, size ,,
Screw ,, ,, ,,
Donkey blr., ,, ,,

ENGINES, Maker
Type
Cyl. diam. Stroke
Revs. trial Sea
I.H.P. ,, ,,
Consumpt. trial ,,

BOILERS, Maker
Type Number
Size Press
Furnaces Number
Grate surf. Heat surf.
Funnel ht. Diam.
Propl. diam. Pitch
,, area ,, Blades

ELECTRIC INSTALLATION—
Maker
No. lights Kilowatts
Voltage Amps
Wireless

BOATS—
Lifeboats × × Persons
,, × × ,,
Dinghy × ×

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
3 × 3 Sundry
Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.1

NAME

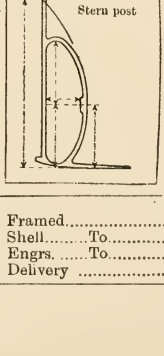
No. REG. DIMENSIONS

Type
Class
Length O.A. B.P.
Breadth ex. Mld.
Depth hold Mld.
Load displ. Draft
Speed on trial Sea
Adm. con. trial ,,
Ratio br. : L.B.P. Depth : draft
Light wt. : load Lt. dr. : load
Ht. tw. dk.
Poop ..... × ..... Br. ..... × ..... F'sle. ..... × .....
Frame spacing
Camber
Length E. and B. space
No. W.T. bhds.
Depth dble. bottom
Height bulwarks
Joggled frames or shell

NUMERALS—
B + D Little d
L (B + D)
Propn. D : L upp. dk. Lower
Equipment No. Letter

MIDSHIP SECTION OUTLINE—
Rise floor
Tumble home
Bilge tanges up In
,, along diag. to W.L.
Tank bottom Top
,, bracket height
Floors every Frame

LINES—
Sheer ford.
,, aft
Rule sheer
Ht. rail
Size stem
,, post
Stern overhang
,, % length B.P.
Transom width
,, % br. mld.
Knuckle depth
,, overhang
,, ,, % of total
Lt. cr. buoy
Shell displ. %
Balance bodies



DATES—
Order Framed
Keel Shell To
Double botm. Engrs. To
Delivery

ESTIMATING SUMMARY—
Cubic number
Steel wt. % of cubic % of displ.
Machy. wt. % of I.H.P. % of displ.
Mean steel wt. Tons
,, machy. wt. Tons
Wood, outfit, cement Tons
Light wt. Tons
Dead wt. Tons
Load displ. Tons

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area Speed
Total ,, Angle
Diam. head
Distance CG from pintles (G)
Width to pintles (w)
Depth immd. (d)
Coeff. area : w × d
Coeff. G : w
Coeff. area : L × Draft ship

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch Displ.
Engined ,,
Finished ,,

OWNERS _____

PORT _____

TONNAGE—	
Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—	
Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grs.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. ..... Size	
Total			Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—	
Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker	
Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker	
Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—	
Maker	
No. lights	Kilowatts
Voltage	Amps
Wirelcss	

BOATS —

Lifeboats ..... × ..... × ..... Persons .....

,, ... × ..... × ..... ,, ...

Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

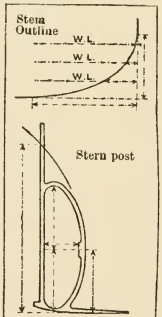
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, att .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total ..
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Els.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

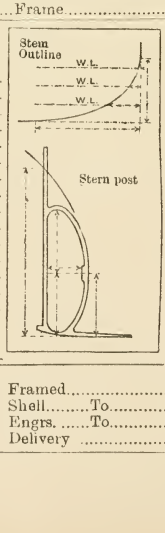
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS

PORT

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. ..... Size	
Total			Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Propl'r. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats ..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Ddl. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.	Ll. C.B.	Vrt. C.B.	Trns.B.M.	Cr.Flot.	Ll.B.M.	M.A.T.1"

NAME_____

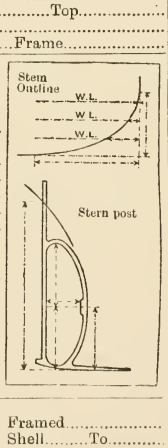
No._____ REG. DIMENSIONS_____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height .....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ...
Transom width.....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total...
Ll. cr..buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—

Order.....	Framed.....
Keel	Shell.....To.....
Double bottm.	Engrs. .....To .....
	Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez.....Panama.

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS –

Lifeboats..... × ..... × .....Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.T.

NAME _____

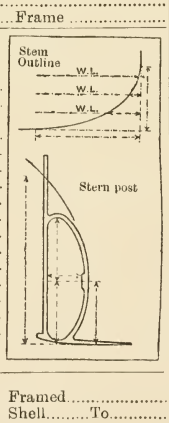
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... F'sle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ...
Transom width .....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total ..
Ll. cr. buoy .....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. °/₀ of cubic ..... °/₀ of displ. .....
Machy. wt. °/₀ of I.H.P. ..... °/₀ of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and saud		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area . L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—
Under deck .....
Erections .....
Excess hatches .....
Light and air .....
Gross .....
Deduct, Crew .....
W. ballast .....
Prop. space.....
Bosn. store.....
Nett register .....

Suez.....Panama. .....

FREEBOARD—
Coeff.....
Centre disc.....
Summer .....
Ind. summer.....
Winter.....
Winter, N.A.....
Fresh water .....

Depth mld.....
Stat. dk. .....
Stringer .....
Keel .....
Total .....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—
Windlass, size.....Maker.....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
Type .....
Cyl. diam. .....Stroke.....
Revs. trial .....Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial..... ,, ...

BOILERS, Maker .....
Type .....Number.....
Size .....Press .....
Furnaces.....Number.....
Grate surf. .....Heat surf.....
Funnel ht. .....Diam.....
Proplr. diam.....Pitch .....
,, area .....Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights.....Kilowatts .....
Voltage.....Amps .....
Wireless .....

BOATS—
Lifeboats..... × ..... × .....Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers.....
Engrs. .....
Seamen .....
Firemen .....
Petty offrs.....
Stewards .....
Pass. 1 cl.....
,, 2 ,, ...
,, 3 ,, ...
Total.....

ROLLINGS— Weight...
Floors .....
Tank frs. .....
,, R.F. .....
Main frs. .....
,, ,, ...
U. dk. beams .....
L. ,, ,, ...
P.B.F. ,, ...
3 × 3 Sundry .....
Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME

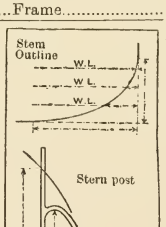
No. REG. DIMENSIONS

Type
Class
Length O.A. B.P.
Breadth ex. Mld.
Depth hold Mld.
Load displ. Draft
Speed on trial Sea
Adm. con. trial ,,
Ratio br. : L.B.P. Depth : draft
Light wt. : load Lt. dr. : load
Ht. tw. dk.
Poop ..... × ..... Br. ..... × ..... F'sle. ..... × .....
Frame spacing
Camber
Length E. and B. space
No. W.T. bhds.
Depth dble. bottom
Height bulwarks
Joggled frames or shell

NUMERALS—
B + D Little d
L (B + D)
Propn. D : L upp. dk. Lower
Equipment No. Letter

MIDSHIP SECTION OUTLINE—
Rise floor
Tumble home
Bilge tanges up In
,, along diag. to W.L.
Tank bottom Top
,, bracket height
Floors every Frame

LINES—
Sheer ford.
,, aft
Rule sheer
Ht. rail
Size stem
,, post
Stern overhang
,, % length B.P.
Transom width
,, % br. mld.
Knuckle depth
,, overhang
,, ,, % of total
Ll. cr. buoy
Shell displ. %
Balance bodies



DATES—
Order
Keel
Double botm.
Framed
Shell To
Engrs. To
Delivery

ESTIMATING SUMMARY—
Cubic number
Steel wt. % of cubic % of displ.
Machy. wt. % of I.H.P. % of displ.
Mean steel wt. Tons
,, machy. wt. Tons
Wood, outfit, cement Tons
Light wt. Tons
Dead wt. Tons
Load displ. Tons

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area Speed
Total ,, Angle
Diam. head
Distance CG from pintles (G)
Width to pintles (w)
Depth immd. (d)
Coeff. area : w × d
Coeff. G : w
Coeff. area : L × Draft ship

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch Displ.
Engined ,,
Finished ,,

OWNERS_____

PORT_____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez_____ Panama_____

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. _____ Size _____	
Galls. _____ Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Propr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.I"

7

NAME

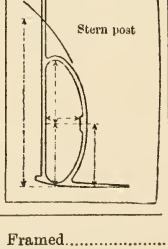
No. REG. DIMENSIONS

Type
Class
Length O.A. B.P.
Breadth ex. Mld.
Depth hold Mld.
Load displ. Draft
Speed on trial Sea
Adm. con. trial ,,
Ratio br. : L.B.P. Depth : draft
Light wt. : load Lt. dr. : load
Ht. tw. dk.
Poop × Br. × Fsle. ×
Frame spacing
Camber
Length E. and B. space
No. W.T. bhds.
Depth dble. bottom
Height bulwarks
Joggled frames or shell

NUMERALS—
B + D Little d
L (B + D)
Propn. D : L upp. dk. Lower
Equipment No. Letter

MIDSHIP SECTION OUTLINE—
Rise floor
Tumble home
Bilge tanges up In
,, along diag. to W.L.
Tank bottom Top
,, bracket height
Floors every Frame

LINES—
Sheer ford.
,, aft
Rule sheer
Ht. rail
Size stem
,, post
Stern overhang
,, % length B.P.
Transom width
,, % br. mld.
Knuckle depth
,, overhang
,, ,, % of total
Ll. cr. buoy
Shell displ. %
Balance bodies



DATES—
Order Framed
Keel Shell To
Double botm. Engrs. To
Delivery

ESTIMATING SUMMARY—
Cubic number
Steel wt. % of cubic % of displ.
Machy. wt. % of I.H.P. % of displ.
Mean steel wt. Tons
,, machy. wt. Tons
Wood, outfit, cement Tons
Light wt. Tons
Dead wt. Tons
Load displ. Tons

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area Speed
Total ,, Angle
Diam. head
Distance CG from pintles (G)
Width to pintles (w)
Depth immd. (d)
Coeff. area : w × d
Coeff. G : w
Coeff. area : L × Draft ship

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch Displ
Engined ,,
Finished ,,

OWNERS _____

PORT _____ _____

TONNAGE—
Under deck .....
Erections .....
Excess hatches .....
Light and air .....
Gross .....
Deduct, Crew .....
W. ballast .....
Prop. space.....
Bosn. store.....
Nett register .....

Suez.....Panama.....

FREEBOARD—
Coeff.....
Centre disc.....
Summer .....
Ind. summer.....
Winter.....
Winter, N.A.....
Fresh water .....

Depth mld.....
Stat. dk. .....
Stringer .....
Keel .....
Total .....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold	.....	.....
,, Hatch	.....	.....
No. 2 Hold	.....	.....
,, Hatch	.....	.....
No. 3 Hold	.....	.....
,, Hatch	.....	.....
No. 4 Hold	.....	.....
,, Hatch	.....	.....
No. 5 Hold	.....	.....
,, Hatch	.....	.....
No. 6 Hold	.....	.....
,, Hatch	.....	.....
Total	.....	.....

W. BALLAST—	Tons.
Fore peak	.....
No. 1 Tank.....	.....
,, 2 ,, ...	.....
,, 3 ,, ...	.....
,, 4 ,, ...	.....
,, 5 ,, ...	.....
,, 6 ,, ...	.....
Lower aft pk.....	.....
Upper ,, ,, ...	.....
Total.....	.....

Fresh water tanks .....
No.....Size.....
Galls. .....Tons .....

SHIPBUILDERS' AUXILS.—
Windlass, size.....Maker.....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
Type .....
Cyl. diam. .....Stroke.....
Revs. trial .....Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial..... ,, ...

BOILERS, Maker .....
Type .....Number.....
Size .....Press .....
Furnaces.....Number.....
Grate surf.....Heat surf.....
Funnel ht. .....Diam. .....
Proplr. diam.....Pitch .....
,, area .....Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights.....Kilowatts .....
Voltage.....Amps .....
Wireless .....

BOATS –
Lifeboats..... × ..... × .....Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1	.....	.....	.....
,, 2	.....	.....	.....
,, 3	.....	.....	.....
,, 4	.....	.....	.....
,, 5	.....	.....	.....
,, 6	.....	.....	.....

COMPLEMENT—
Officers.....
Engrs. .....
Seamen .....
Firemen .....
Petty offrs.....
Stewards .....
Pass. 1 cl.....
,, 2 ,, ...
,, 3 ,, ...
Total.....

ROLLINGS— Weight...
Floors .....
Tank frs. .....
,, R.F. .....
Main frs. .....
,, ,, ...
U. dk. beams .....
L. ,, ,, ...
P.B.F. ,, ...
3 × 3 Sundry .....
Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.	Ll. C.B.	Vrt. C.B.	Trns.B.M.	Cr.Flot.	Ll.B.M.	M.A T.I
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

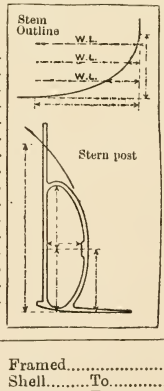
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. .....B.P. .....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, °/₀ length B.P. ...
Transom width.....
,, °/₀ br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total..
Ll. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—
- Under deck .....
- Erections .....
- Excess hatches .....
- Light and air .....
- Gross .....
- Deduct, Crew .....
- W. ballast .....
- Prop. space .....
- Bosn. store .....
- Nett register .....

Suez ..... Panama .....

FREEBOARD—
- Coeff. .....
- Centre disc. .....
- Summer .....
- Ind. summer .....
- Winter .....
- Winter, N.A. .....
- Fresh water .....
- Depth mld. .....
- Stat. dk. .....
- Stringer .....
- Keel .....
- Total .....
- Freebd. .....
- Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—
- Windlass, size ..... Maker .....
- Winches, ,, ... ,, ...
- ,, ,, ... ,, ...
- St. st. gear, size ..... ,, ...
- Screw ,, ,, ... ,, ...
- Donkey blr., ,, ... ,, ...

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker .....
- Type .....
- Cyl. diam. ..... Stroke .....
- Revs. trial ..... Sea .....
- I.H.P. ,, ... ,, ...
- Consumpt. trial ..... ,, ...

BOILERS, Maker .....
- Type ..... Number .....
- Size ..... Press .....
- Furnaces ..... Number .....
- Grate surf. ..... Heat surf. .....
- Funnel ht. ..... Diam. .....
- Proplr. diam. ..... Pitch .....
- ,, area ..... Blades .....

ELECTRIC INSTALLATION—
- Maker .....
- No. lights ..... Kilowatts .....
- Voltage ..... Amps .....
- Wireless .....

BOATS—
- Lifeboats ..... × ..... × ..... Persons .....
- ,, ... × ..... × ..... ,, ...
- Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
- Officers .....
- Engrs. .....
- Seamen .....
- Firemen .....
- Petty offrs. .....
- Stewards .....
- Pass. 1 cl. .....
- ,, 2 ,, ...
- ,, 3 ,, ...
- Total .....

ROLLINGS— Weight ...
- Floors .....
- Tank frs. .....
- ,, R.F. .....
- Main frs. .....
- ,, ,, ...
- U. dk. beams .....
- L. ,, ,, ...
- P.B.F. ,, ...
- 3 × 3 Sundry .....
- Shell .....

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.1

NAME _____

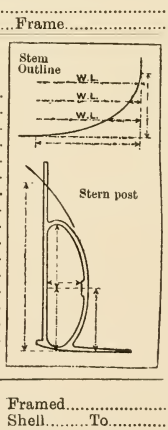
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... „ .....
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
„ along diag. to ..... W.L. .....
Tank bottom ..... Top .....
„ bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
„ post .....
Stern overhang .....
„ % length B.P. ...
Transom width .....
„ % br. mld. ...
Knuckle depth .....
„ overhang .....
„ „ % of total ...
Lt. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
„ machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
„ wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
„ „ engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total „ ..... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
„ side port	
„ „ stbd.	
„ tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... „ .....
Finished ..... „ .....

OWNERS _____

PORT _____ _____

TONNAGE—
Under deck ....
Erections ....
Excess hatches ....
Light and air ....
Gross ....
Deduct, Crew ....
W. ballast ....
Prop. space ....
Bosn. store ....
Nett register .....

Suez..... Panama.....

FREEBOARD—
Coeff.....
Centre disc.....
Summer .....
Ind. summer.....
Winter .....
Winter, N.A.....
Fresh water .....

Depth mld.....
Stat. dk. .....
Stringer .....
Keel .....
Total .....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold	.....	.....
,, Hatch	.....	.....
No. 2 Hold	.....	.....
,, Hatch	.....	.....
No. 3 Hold	.....	.....
,, Hatch	.....	.....
No. 4 Hold	.....	.....
,, Hatch	.....	.....
No. 5 Hold	.....	.....
,, Hatch	.....	.....
No. 6 Hold	.....	.....
,, Hatch	.....	.....
Total	.....	.....

W. BALLAST—	Tons.
Fore peak	.....
No. 1 Tank	.....
,, 2 ,,	.....
,, 3 ,,	.....
,, 4 ,,	.....
,, 5 ,,	.....
,, 6 ,,	.....
Lower aft pk.	.....
Upper ,, ,,	.....
Total	.....

Fresh water tanks .....
No. ..... Size .....
Galls. ..... Tons .....

SHIPBUILDERS' AUXILS.—
Windlass, size..... Maker.....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
Type .....
Cyl. diam. ..... Stroke.....
Revs. trial ..... Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial..... ,, ...

BOILERS, Maker .....
Type ..... Number.....
Size ..... Press .....
Furnaces..... Number.....
Grate surf..... Heat surf.....
Funnel ht. ..... Diam.....
Proplr. diam..... Pitch .....
,, area ..... Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights..... Kilowatts .....
Voltage..... Amps .....
Wireless .....

BOATS –
Lifeboats..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1	.....	.....	.....
,, 2	.....	.....	.....
,, 3	.....	.....	.....
,, 4	.....	.....	.....
,, 5	.....	.....	.....
,, 6	.....	.....	.....

COMPLEMENT—
Officers.....
Engrs. .....
Seamen .....
Firemen .....
Petty offrs.....
Stewards .....
Pass. 1 cl.....
,, 2 ,, ...
,, 3 ,, ...
Total.....

ROLLINGS— Weight...
Floors .....
Tank frs.....
,, R.F. .....
Main frs. .....
,, ,, ...
U. dk. beams .....
L. ,, ,, ...
P.B.F. ,, ...
3 × 3 Sundry .....
Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

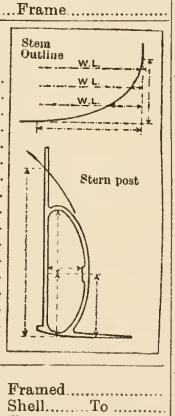
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds.....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total ..
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm. .....

Framed.....
Shell.....To .....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. ..... Size	
Total			Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats ..... × ..... × ..... Persons .....

,, ... × ..... × ..... ,, ...

Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME_____

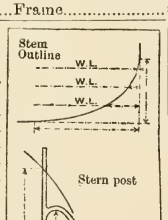
No._____ REG. DIMENSIONS_____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang .....
,, °/₀ length B.P. ...
Transom width.....
,, °/₀ br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total ..
Ll. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed .....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—
Under deck .....
Erections .....
Excess hatches .....
Light and air .....
Gross .....
Deduct, Crew .....
W. ballast .....
Prop. space .....
Bosn. store .....
Nett register .....

Suez..... Panama.....

FREEBOARD—
Coeff.....
Centre disc.....
Summer .....
Ind. summer.....
Winter.....
Winter, N.A.....
Fresh water .....

Depth mld.....
Stat. dk. .....
Stringer .....
Keel .....
Total .....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold	.....	.....
,, Hatch	.....	.....
No. 2 Hold	.....	.....
,, Hatch	.....	.....
No. 3 Hold	.....	.....
,, Hatch	.....	.....
No. 4 Hold	.....	.....
,, Hatch	.....	.....
No. 5 Hold	.....	.....
,, Hatch	.....	.....
No. 6 Hold	.....	.....
,, Hatch	.....	.....
Total	.....	.....

W. BALLAST—	Tons.
Fore peak	.....
No. 1 Tank	.....
,, 2 ,,	.....
,, 3 ,,	.....
,, 4 ,,	.....
,, 5 ,,	.....
,, 6 ,,	.....
Lower aft pk.	.....
Upper ,, ,,	.....
Total	.....
Fresh water tanks	.....
No. ..... Size	
Galls. ..... Tons	.....

SHIPBUILDERS' AUXILS.—
Windlass, size..... Maker.....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
Type .....
Cyl. diam. ..... Stroke.....
Revs. trial ..... Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial..... ,, ...

BOILERS, Maker .....
Type ..... Number.....
Size ..... Press .....
Furnaces..... Number.....
Grate surf..... Heat surf.....
Funnel ht. ..... Diam.....
Proplr. diam..... Pitch .....
,, area ..... Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights..... Kilowatts .....
Voltage..... Amps .....
Wireless .....

BOATS –
Lifeboats..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1	.....	.....	.....
,, 2	.....	.....	.....
,, 3	.....	.....	.....
,, 4	.....	.....	.....
,, 5	.....	.....	.....
,, 6	.....	.....	.....

COMPLEMENT—
Officers.....
Engrs. .....
Seamen .....
Firemen .....
Petty offrs.....
Stewards .....
Pass. 1 cl.....
,, 2 ,, ...
,, 3 ,, ...
Total.....

ROLLINGS— Weight...
Floors .....
Tank frs. .....
,, R.F. .....
Main frs. .....
,, ,, ...
U. dk. beams .....
L. ,, ,, ...
P.B.F. ,, ...
3 × 3 Sundry .....
Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

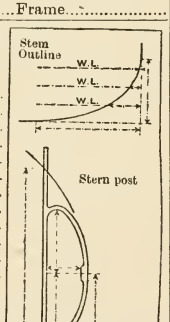
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ..
Transom width .....
,, % br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, % of total ..
Lt. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS_____

PORT_____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez.....Panama.....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	

Fresh water tanks .....

No.....Size.....

Galls. .....Tons .....

SHIPBUILDERS' AUXILS.—

Windlass, size.....Maker.....

Winches, ,, ... ,, ...

,, ,, ... ,, ...

St. st. gear, size..... ,, ...

Screw ,, ,, ... ,, ...

Donkey blr., ,, ... ,, ...

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS –

Lifeboats..... × ..... × .....Persons .....

,, ... × ..... × ..... ,, ...

Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME_____

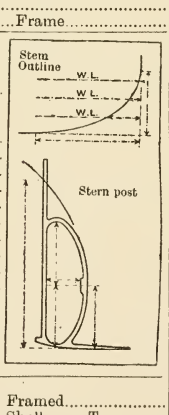
No._____ REG. DIMENSIONS_____

Type .....
Class .....
Length O.A. .....B.P. .....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower .....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, °/₀ length B.P. ...
Transom width.....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total..
Ll. cr. buoy .....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....

Framed.....
Shell.....To.....
Engrs. .....To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and saud.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. _____ Size _____	
Galls. _____ Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Propl. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats _____ × _____ × _____ Persons _____
,, _____ × _____ × _____ ,, _____
Dinghy _____ × _____ × _____

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

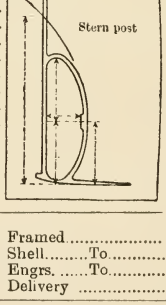
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea.....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width.....
,, % br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, % of total..
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed .....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register
Suez ..... Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water
Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST— Tons.
Fore peak
No. 1 Tank
,, 2 ,,
,, 3 ,,
,, 4 ,,
,, 5 ,,
,, 6 ,,
Lower aft pk.
Upper ,, ,,
Total
Fresh water tanks
No. ..... Size.....
Galls. ..... Tons .....

SHIPBUILDERS' AUXILS.—
Windlass, size ..... Maker .....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size ..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
Type .....
Cyl. diam. ..... Stroke .....
Revs. trial ..... Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial ..... ,, ...

BOILERS, Maker .....
Type ..... Number .....
Size ..... Press .....
Furnaces ..... Number .....
Grate surf. ..... Heat surf. .....
Funnel ht. ..... Diam. .....
Proplr. diam. ..... Pitch .....
,, area ..... Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights ..... Kilowatts .....
Voltage ..... Amps .....
Wireless .....

BOATS —
Lifeboats ..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
3 × 3 Sundry
Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

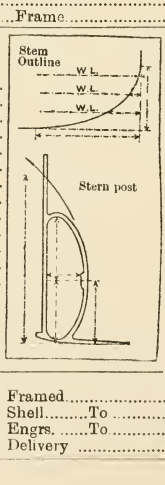
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... „ .....
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
„ along diag. to ..... W.L. .....
Tank bottom ..... Top .....
„ bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
„ post .....
Stern overhang .....
„ % length B.P. ...
Transom width .....
„ % br. mld. ..
Knuckle depth .....
„ overhang .....
„ „ % of total ..
Lt. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
„ machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
„ wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
„ „ engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total „ ..... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
„ side port	
„ „ stbd.	
„ tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... „ .....
Finished ..... „ .....

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Strieger
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. Size	
Total			Galls. Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS –

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.T

NAME _____

No. _____ REG. DIMENSIONS _____

Type			
Class			
Length O.A.		B.P.	
Breadth ex.		Mld.	
Depth hold		Mld.	
Load displ.		Draft	
Speed on trial		Sea	
Adm. con. trial		,,	
Ratio br. : L.B.P.		Depth : draft	
Light wt. : load		Lt. dr. : load	
Ht. tw. dk.			
Poop ..... ×		Br. ..... ×	F'sle. ..... ×
Frame spacing			
Camber			
Length E. and B. space			
No. W.T. bhds.			
Depth dble. bottom			
Height bulwarks			
Joggled frames or shell			

NUMERALS—

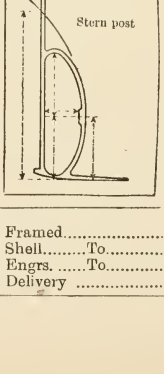
B + D		Little d	
L (B + D)			
Propn. D : L	upp. dk.	Lower	
Equipment No.		Letter	

MIDSHIP SECTION OUTLINE—

Rise floor			
Tumble home			
Bilge tanges up		In	
,, along diag. to		W.L.	
Tank bottom		Top	
,, bracket height			
Floors every		Frame	

LINES—

Sheer ford.			
,, aft			
Rule sheer			
Ht. rail			
Size stem			
,, post			
Stern overhang			
,, °/₀ length B.P.			
Transom width			
,, °/₀ br. mld.			
Knuckle depth			
,, overhang			
,, ,, °/₀ of total			
Ll. cr. buoy			
Shell displ. °/₀			
Balance bodies			



DATES—

Order		Framed	
Keel		Shell	To
Double botm.		Engrs.	To
		Delivery	

ESTIMATING SUMMARY—

Cubic number			
Steel wt. °/₀ of cubic		°/₀ of displ.	
Machy. wt. °/₀ of I.H.P.		°/₀ of displ.	
Mean steel wt.		Tons	
,, machy. wt.		Tons	
Wood, outfit, cement		Tons	
Light wt.		Tons	
Dead wt.		Tons	
Load displ.		Tons	

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—

Immd. area		Speed	
Total ,,		Angle	
Diam. head			
Distance CG from pintles (G)			
Width to pintles (w)			
Depth immd. (d)			
Coeff. area : w × d			
Coeff. G : w			
Coeff. area : L × Draft ship			

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—

Launch		Displ.	
Engined		,,	
Finished		,,	

OWNERS _____

PORT _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—

	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—

	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats ..... × ..... × ..... Persons .....

,, ... × ..... × ..... ,, ...

Dinghy ..... × ..... × .....

HATCHES—

	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

LI. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	LI. B.M.	M.A.T.I.

NAME_____

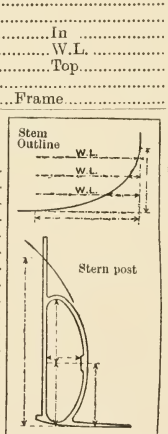
No._____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height .....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, °/₀ length B.P. ..
Transom width.....
,, °/₀ br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total...
Lt. cr. buoy .....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm. .....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

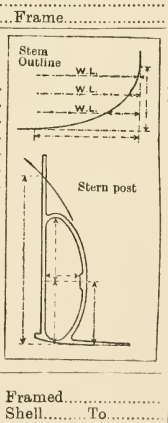
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer forд. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total ..
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm. .....
Framed .....
Shell ..... To .....
Engrs. ... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Propelr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

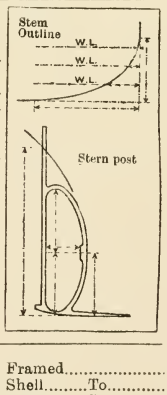
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, °/₀ leugth B.P. ...
Transom width .....
,, °/₀ br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total ...
Ll. cr. buoy .....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm. .....
Framed .....
Shell ..... To .....
Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. °/₀ of cubic ..... °/₀ of displ. .....
Machy. wt. °/₀ of I.H.P. ..... °/₀ of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. _____ Size _____	
Galls. _____ Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Ddl. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS –

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME

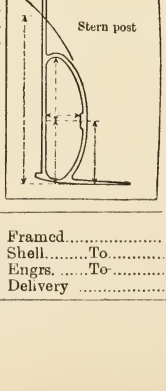
No. REG. DIMENSIONS

Type
Class
Length O.A. B.P.
Breadth ex. Mld.
Depth hold Mld.
Load displ. Draft
Speed on trial Sea
Adm. con. trial ,,
Ratio br. : L.B.P. Depth : draft
Light wt. : load Lt. dr. : load
Ht. tw. dk.
Poop × Br. × Fsle. ×
Frame spacing
Camber
Length E. and B. space
No. W.T. bhds.
Depth dble. bottom
Height bulwarks
Joggled frames or shell

NUMERALS—
B + D Little d
L (B + D)
Propn. D : L upp. dk. Lower
Equipment No. Letter

MIDSHIP SECTION OUTLINE—
Rise floor
Tumble home
Bilge tanges up In
,, along diag. to W.L.
Tank bottom Top
,, bracket height
Floors every Frame

LINES—
Sheer ford.
,, aft
Rule sheer
Ht. rail
Size stem
,, post
Stern overhang
,, % length B.P.
Transom width
,, % br. mld.
Knuckle depth
,, overhang
,, ,, % of total
Ll. cr. buoy
Shell displ. %
Balance bodies



DATES—
Order Framed
Keel Shell To
Double botm. Engrs. To
Delivery

ESTIMATING SUMMARY—
Cubic number
Steel wt. % of cubic % of displ.
Machy. wt. % of I.H.P. % of displ.
Mean steel wt. Tons
,, machy. wt. Tons
Wood, outfit, cement Tons
Light wt. Tons
Dead wt. Tons
Load displ. Tons

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area Speed
Total ,, Angle
Diam. head
Distance CG from pintles (G)
Width to pintles (w)
Depth immd. (d)
Coeff. area : w × d
Coeff. G : w
Coeff. area : L × Draft ship

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch Displ.
Engined ,,
Finished ,,

OWNERS_____

PORT_____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez.....Panama.

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. .....Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

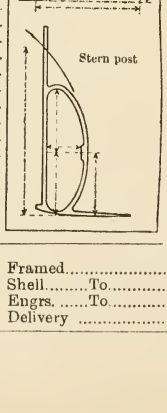
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... „ .....
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....F'sle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds.....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower .....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
„ along diag. to.....W.L. .....
Tank bottom.....Top.....
„ bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
„ post .....
Stern overhang.....
„ % length B.P. ...
Transom width.....
„ % br. mld. ..
Knuckle depth .....
„ overhang .....
„ „ % of total...
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—

Order.....		Framed.....	
Keel		Shell.....To.....	
Double botm.....		Engrs. .....To.....	
		Delivery	

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
„ machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
„ wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
„ „ engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total „ .....Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
„ side port.....	.....
„ „ stbd.	.....
„ tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... „ .....
Finished ..... „ .....

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	
Suez ..... Panama	

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Propl. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

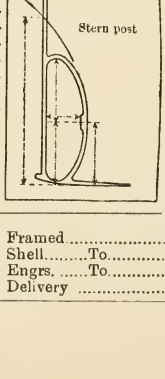
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height .....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, % length B.P. ...
Transom width.....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—

Order.....	Framed.....
Keel	Shell.....To.....
Double botm.....	Engrs. .....To.....
	Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to piutles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. ..... Size	
Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats ..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

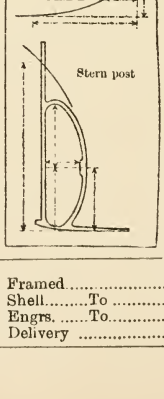
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... „ .....
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D) .....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up.....In .....
„ along diag. to.....W.L. .....
Tank bottom.....Top.....
„ bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
„ post .....
Stern overhang.....
„ % length B.P. ...
Transom width.....
„ % br. mld. ...
Knuckle depth .....
„ overhang .....
„ „ % of total...
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed.....
Shell.....To .....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Meau steel wt.....Tons.....
„ machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
„ wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
„ „ engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total „ .....Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
„ side port.....	.....
„ „ stbd.	.....
„ tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... „ .....
Finished ..... „ .....

OWNERS _____

PORT _____ _____

TONNAGE—
Under deck .....
Erections .....
Excess hatches .....
Light and air .....
Gross .....
Deduct, Crew .....
W. ballast .....
Prop. space.....
Bosn. store.....
Nett register .....
Suez.....Panama .....

FREEBOARD—
Coeff.....
Centre disc.....
Summer .....
Ind. summer.....
Winter.....
Winter, N.A.....
Fresh water .....

Depth mld.....
Stat. dk. .....
Stringer .....
Keel .....
Total.....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—
Windlass, size.....Maker.....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
Type .....
Cyl. diam. .....Stroke.....
Revs. trial .....Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial..... ,, ...

BOILERS, Maker .....
Type .....Number.....
Size .....Press .....
Furnaces.....Number.....
Grate surf.....Heat surf.....
Funnel ht. .....Diam.....
Proplr. diam.....Pitch .....
,, area .....Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights.....Kilowatts .....
Voltage.....Amps .....
Wireless .....

BOATS—
Lifeboats..... × ..... × .....Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers.....
Engrs. .....
Seamen .....
Firemen .....
Petty offrs.....
Stewards .....
Pass. 1 cl.....
,, 2 ,, ...
,, 3 ,, ...
Total.....

ROLLINGS— Weight...
Floors .....
Tank frs.....
,, R.F. .....
Main frs. .....
,, ,, ...
U. dk. beams .....
L. ,, ,, ...
P.B.F. ,, ...
3×3 Sundry .....
Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.I.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

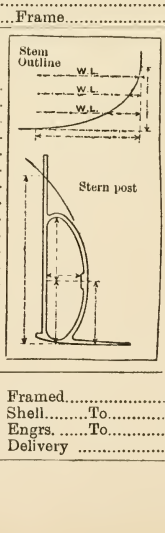
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds.....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, % length B.P. ...
Transom width.....
,, % br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—

Coeff.		Depth mld.	
Centre disc.		Stat. dk.	
Summer		Stringer	
Ind. summer		Keel	
Winter		Total	
Winter, N.A.		Freebd.	
Fresh water		Load dr.	

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. _____ Size _____	
Galls. _____ Tons _____	

SHIPBUILDERS' AUXILS.—

Windlass, size		Maker	
Winches, ,,		,,	
,, ,,		,,	
St. st. gear, size		,,	
Screw ,, ,,		,,	
Donkey blr., ,,		,,	

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker _____

Type			
Cyl. diam.		Stroke	
Revs. trial		Sea	
I.H.P. ,,		,,	
Consumpt. trial		,,	

BOILERS, Maker _____

Type		Number	
Size		Press	
Furnaces		Number	
Grate surf.		Heat surf.	
Funnel ht.		Diam.	
Proplr. diam.		Pitch	
,, area		Blades	

ELECTRIC INSTALLATION—

Maker			
No. lights		Kilowatts	
Voltage		Amps	
Wireless			

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—		ROLLINGS—	Weight...
Officers		Floors	
Engrs.		Tank frs.	
Seamen		,, R.F.	
Firemen		Main frs.	
Petty offrs.		,, ,,	
Stewards		U. dk. beams	
Pass. 1 cl.		L. ,, ,,	
,, 2 ,,		P.B.F. ,,	
,, 3 ,,		3 × 3 Sundry	
Total		Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME_____

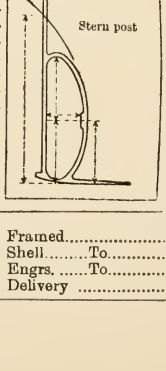
No._____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. .....B.P. .....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D) .....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height .....
Floors every .....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, °/o length B.P. ...
Transom width.....
,, °/o br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, °/o of total...
Ll. cr. buoy .....
Shell displ. °/o .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm. .....

Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/o of cubic .....°/o of displ.....
Machy. wt. °/o of I.H.P. .....°/o of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—
- Under deck ....
- Erections ....
- Excess hatches ....
- Light and air ....
- Gross ....
- Deduct, Crew ....
- W. ballast ....
- Prop. space ....
- Bosn. store ....
- Nett register .....

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld. .....
Centre disc.	Stat. dk. .....
Summer	Stringer .....
Ind. summer	Keel .....
Winter	Total .....
Winter, N.A.	Freebd. .....
Fresh water	Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold	.....	.....
,, Hatch	.....	.....
No. 2 Hold	.....	.....
,, Hatch	.....	.....
No. 3 Hold	.....	.....
,, Hatch	.....	.....
No. 4 Hold	.....	.....
,, Hatch	.....	.....
No. 5 Hold	.....	.....
,, Hatch	.....	.....
No. 6 Hold	.....	.....
,, Hatch	.....	.....
Total	.....	.....

W. BALLAST—	Tons.
Fore peak	.....
No. 1 Tank	.....
,, 2 ,,	.....
,, 3 ,,	.....
,, 4 ,,	.....
,, 5 ,,	.....
,, 6 ,,	.....
Lower aft pk.	.....
Upper ,, ,,	.....
Total	.....
Fresh water tanks	.....
No. ..... Size	
Galls. ..... Tons	.....

SHIPBUILDERS' AUXILS.—
- Windlass, size ..... Maker .....
- Winches, ,, ... ,, ...
- ,, ,, ... ,, ...
- St. st. gear, size ..... ,, ...
- Screw ,, ,, ... ,, ...
- Donkey blr., ,, ... ,, ...

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....

ENGINES, Maker .....
- Type .....
- Cyl. diam. ..... Stroke .....
- Revs. trial ..... Sea .....
- I.H.P. ,, ... ,, ...
- Consumpt. trial ..... ,, ...

BOILERS, Maker .....
- Type ..... Number .....
- Size ..... Press .....
- Furnaces ..... Number .....
- Grate surf. ..... Heat surf. .....
- Funnel ht. ..... Diam. .....
- Proplr. diam. ..... Pitch .....
- ,, area ..... Blades .....

ELECTRIC INSTALLATION—
- Maker .....
- No. lights ..... Kilowatts .....
- Voltage ..... Amps .....
- Wireless .....

BOATS –
- Lifeboats ..... × ..... × ..... Persons .....
- ,, ... × ..... × ..... ,, ...
- Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1	.....	.....	.....
,, 2	.....	.....	.....
,, 3	.....	.....	.....
,, 4	.....	.....	.....
,, 5	.....	.....	.....
,, 6	.....	.....	.....

COMPLEMENT—
- Officers ..... Rollings— Weight...
- Engrs. ..... Floors .....
- Seamen ..... Tank frs. .....
- Firemen ..... ,, R.F. .....
- Petty offrs. ..... Main frs. .....
- Stewards ..... ,, ,, ...
- Pass. 1 cl. ..... U. dk. beams .....
- ,, 2 ,, ... L. ,, ,, ...
- ,, 3 ,, ... P.B.F. ,, ...
- Total ..... 3 × 3 Sundry .....
- Shell .....

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....

NAME _____

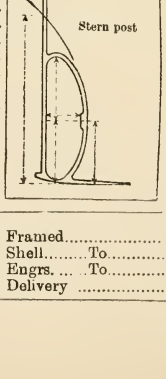
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. .....B.P. .....
Breadth ex. .....Mld. .....
Depth hold .....Mld. .....
Load displ. .....Draft .....
Speed on trial .....Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. .....Depth : draft .....
Light wt. : load .....Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D .....Little d .....
L (B + D) .....
Propn. D : L upp. dk. .....Lower .....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up .....In .....
,, along diag. to .....W.L. .....
Tank bottom .....Top .....
,, bracket height .....
Floors every .....Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total ..
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm. .....
Framed .....
Shell .....To .....
Engrs. .....To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic .....% of displ. .....
Machy. wt. % of I.H.P. .....% of displ. .....
Mean steel wt. .....Tons .....
,, machy. wt. .....Tons .....
Wood, outfit, cement .....Tons .....
Light wt. .....Tons .....
Dead wt. .....Tons .....
Load displ. .....Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area .....Speed .....
Total ,, ...Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch .....Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez ..... Panama .....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.	W. BALLAST—	Tons.
No. 1 Hold			Fore peak	
,, Hatch			No. 1 Tank	
No. 2 Hold			,, 2 ,,	
,, Hatch			,, 3 ,,	
No. 3 Hold			,, 4 ,,	
,, Hatch			,, 5 ,,	
No. 4 Hold			,, 6 ,,	
,, Hatch			Lower aft pk.	
No. 5 Hold			Upper ,, ,,	
,, Hatch			Total	
No. 6 Hold			Fresh water tanks	
,, Hatch			No. ..... Size	
Total			Galls. ..... Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats ..... × ..... × ..... Persons .....

,, ... × ..... × ..... ,, ...

Dinghy ..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

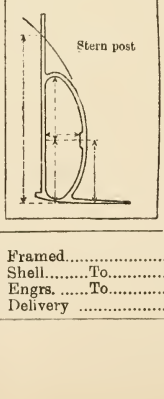
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea.....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom .....Top.....
,, bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, °/₀ length B.P. ...
Transom width.....
,, °/₀ br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, °/₀ of total...
Ll. cr. buoy.....
Shell displ. °/₀ .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....
Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. °/₀ of cubic .....°/₀ of displ.....
Machy. wt. °/₀ of I.H.P. .....°/₀ of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register

Suez Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water

Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—
Windlass, size Maker
Winches, ,, ,,
,, ,, ,,
St. st. gear, size ,,
Screw ,, ,, ,,
Donkey blr., ,, ,,

ENGINES, Maker
Type
Cyl. diam. Stroke
Revs. trial Sea
I.H.P. ,, ,,
Consumpt. trial ,, ,,

BOILERS, Maker
Type Number
Size Press
Furnaces Number
Grate surf. Heat surf.
Funnel ht. Diam.
Proplr. diam. Pitch
,, area Blades

ELECTRIC INSTALLATION—
Maker
No. lights Kilowatts
Voltage Amps
Wireless

BOATS
Lifeboats × × Persons
,, × × ,,
Dinghy × ×

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
3 × 3 Sundry
Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

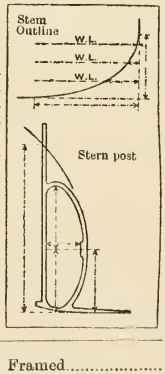
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... ,, ...
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .. ..
Length E. and B. space.....
No. W.T. bhds. .....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
,, along diag. to.....W.L. .....
Tank bottom.....Top.....
,, bracket height .....
Floors every.....Frame.....

LINES—
Sheer ford. .....
,, aft.....
Rule sheer .....
Ht. rail.....
Size stem.....
,, post .....
Stern overhang.....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—

Order.....	Framed.....
Keel	Shell.....To.....
Double botm.....	Engrs. .....To .....
	Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
,, machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
,, wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
,, ,, engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total ,, ...Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
,, side port.....	.....
,, ,, stbd.	.....
,, tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez.....Panama.....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS –

Lifeboats..... × ..... × .....Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—

Officers	
Engrs.	
Seamen	
Firemen	
Petty offrs.	
Stewards	
Pass. 1 cl.	
,, 2 ,,	
,, 3 ,,	
Total	

ROLLINGS— Weight...

Floors	
Tank frs.	
,, R.F.	
Main frs.	
,, ,,	
U. dk. beams	
L. ,, ,,	
P.B.F. ,,	
3 × 3 Sundry	
Shell	

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.I.

NAME _____

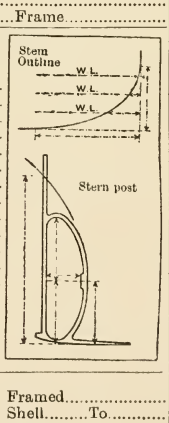
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ..
Knuckle depth .....
,, overhang .....
,, ,, % of total..
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm. .....
Framed .....
Shell ..... To .....
Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Fiuished ..... ,, ...

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez..... Panama.....

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME _____

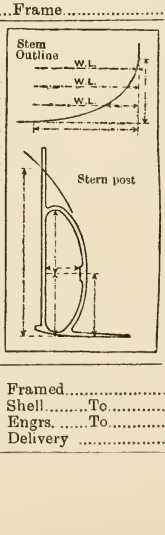
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... „ .....
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
„ along diag. to ..... W.L. .....
Tank bottom ..... Top .....
„ bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
„ post .....
Stern overhang .....
„ % length B.P. ...
Transom width .....
„ % br. mld. ...
Knuckle depth .....
„ overhang .....
„ „ % of total...
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
„ machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
„ wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
„ „ engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total „ ..... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
„ side port	
„ „ stbd.	
„ tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... „ .....
Finished ..... „ .....

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register
Suez Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water
Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST— Tons.
Fore peak
No. 1 Tank
,, 2 ,,
,, 3 ,,
,, 4 ,,
,, 5 ,,
,, 6 ,,
Lower aft pk.
Upper ,, ,,
Total
Fresh water tanks
No. Size.
Galls. Tons

SHIPBUILDERS' AUXILS.—
Windlass, size Maker
Winches, ,, ,,
,, ,, ,,
St. st. gear, size ,,
Screw ,, ,, ,,
Donkey blr., ,, ,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ.Co.	Prism.Co.

ENGINES, Maker
Type
Cyl. diam. Stroke
Revs. trial Sea
I.H.P. ,, ,,
Consumpt. trial ,,

BOILERS, Maker
Type Number
Size Press
Furnaces Number
Grate surf. Heat surf.
Funnel ht. Diam.
Proplr. diam. Pitch
,, area Blades

ELECTRIC INSTALLATION—
Maker
No. lights Kilowatts
Voltage Amps
Wireless

BOATS—
Lifeboats × × Persons
,, × × ,,
Dinghy × ×

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
3 × 3 Sundry
Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

NAME_____

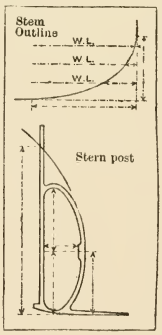
No._____ REG. DIMENSIONS_____

Type .....
Class.....
Length O.A. .....B.P. .....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea .....
Adm. con. trial..... „ .....
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds.....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d .....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. ... .Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
„ along diag. to.....W.L. .....
Tank bottom.....Top.....
„ bracket height.....
Floors every.....Frame .....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail.....
Size stem.....
„ post .....
Stern overhang .....
„ % length B.P. ...
Transom width.....
„ % br. mld. ...
Knuckle depth .....
„ overhang .....
„ „ % of total...
Ll. cr. buoy.....
Shell displ. % .....
Balance bodies .....



DATES—
Order.....
Keel .....
Double botm.....

Framed.....
Shell.....To.....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
„ machy. wt.....Tons.....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
„ wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.....	.....	.....
Steaming wt. boilers.....	.....	.....
„ „ engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total „ .....Angle.....
Diam. head.....
Distance CG from pintles (G) .....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross.....	.....
„ side port.....	.....
„ „ stbd.	.....
„ tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... „ .....
Finished ..... „ .....

OWNERS _____

PORT _____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez _____ Panama _____

FREEBOARD—

Coeff.	Depth mld.
Centre disc.	Stat. dk.
Summer	Stringer
Ind. summer	Keel
Winter	Total
Winter, N.A.	Freebd.
Fresh water	Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. _____ Size _____	
Galls. _____ Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

ENGINES, Maker _____

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker _____

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS—

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A T.I"

NAME _____

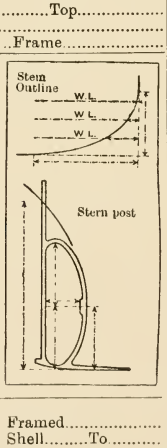
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. cou. trial ..... „ .....
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
„ along diag. to ..... W.L. .....
Tank bottom ..... Top .....
„ bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
„ post .....
Stern overhang .....
„ % length B.P. ...
Transom width .....
„ % br. mld. ..
Knuckle depth .....
„ overhang .....
„ „ % of total...
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
„ machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
„ wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
„ „ engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total „ ..... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
„ side port	
„ „ stbd.	
„ tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... „ .....
Finished ..... „ .....

OWNERS_____

PORT_____ _____

TONNAGE—

Under deck	
Erections	
Excess hatches	
Light and air	
Gross	
Deduct, Crew	
W. ballast	
Prop. space	
Bosn. store	
Nett register	

Suez.....Panama.....

FREEBOARD—

Coeff.	
Centre disc.	
Summer	
Ind. summer	
Winter	
Winter, N.A.	
Fresh water	
Depth mld.	
Stat. dk.	
Stringer	
Keel	
Total	
Freebd.	
Load dr.	

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No.....Size.....	
Galls. .....Tons	

SHIPBUILDERS' AUXILS.—

Windlass, size	Maker
Winches, ,,	,,
,, ,,	,,
St. st. gear, size	,,
Screw ,, ,,	,,
Donkey blr., ,,	,,

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.

ENGINES, Maker .....

Type	
Cyl. diam.	Stroke
Revs. trial	Sea
I.H.P. ,,	,,
Consumpt. trial	,,

BOILERS, Maker .....

Type	Number
Size	Press
Furnaces	Number
Grate surf.	Heat surf.
Funnel ht.	Diam.
Proplr. diam.	Pitch
,, area	Blades

ELECTRIC INSTALLATION—

Maker	
No. lights	Kilowatts
Voltage	Amps
Wireless	

BOATS –

Lifeboats	×	×	Persons
,,	×	×	,,
Dinghy	×	×	

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—	ROLLINGS— Weight...
Officers	Floors
Engrs.	Tank frs.
Seamen	,, R.F.
Firemen	Main frs.
Petty offrs.	,, ,,
Stewards	U. dk. beams
Pass. 1 cl.	L. ,, ,,
,, 2 ,,	P.B.F. ,,
,, 3 ,,	3 × 3 Sundry
Total	Shell

Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1

NAME _____

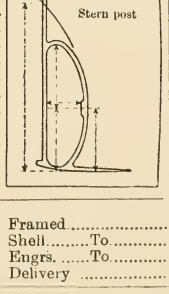
No. _____ REG. DIMENSIONS _____

Type .....
Class.....
Length O.A. .....B.P.....
Breadth ex. .....Mld. .....
Depth hold.....Mld. .....
Load displ.....Draft .....
Speed on trial.....Sea.....
Adm. con. trial..... „ .....
Ratio br. : L.B.P.....Depth : draft .....
Light wt. : load.....Lt. dr. : load .....
Ht. tw. dk.....
Poop ..... × .....Br. ..... × .....Fsle. ..... × .....
Frame spacing.....
Camber .....
Length E. and B. space.....
No. W.T. bhds.....
Depth dble. bottom.....
Height bulwarks.....
Joggled frames or shell.....

NUMERALS—
B + D.....Little d.....
L (B + D).....
Propn. D : L upp. dk.....Lower.....
Equipment No. .....Letter.....

MIDSHIP SECTION OUTLINE—
Rise floor.....
Tumble home .....
Bilge tanges up.....In .....
„ along diag. to.....W.L. .....
Tank bottom.....Top.....
„ bracket height.....
Floors every.....Frame.....

LINES—
Sheer ford. .....
„ aft .....
Rule sheer .....
Ht. rail.....
Size stem .....
„ post .....
Stern overhang.....
„ % length B.P. ...
Transom width.....
„ % br. mld. ..
Knuckle depth .....
„ overhang .....
„ „ % of total ..
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order .....
Keel .....
Double botm.....
Framed .....
Shell.....To .....
Engrs. .....To.....
Delivery .....

ESTIMATING SUMMARY—
Cubic number.....
Steel wt. % of cubic .....% of displ.....
Machy. wt. % of I.H.P. .....% of displ.....
Mean steel wt.....Tons.....
„ machy. wt.....Tons .....
Wood, outfit, cement.....Tons.....
Light wt. .....Tons.....
Dead wt.....Tons.....
Load displ. .....Tons.....

WEIGHTS—	Invoice.	Nett.
Plates.....	.....	.....
Sections	.....	.....
Rivets	.....	.....
Packing	.....	.....
Smith, davits, pillars	.....	.....
Castings	.....	.....
Forgings	.....	.....
Total steel and iron.....	.....	.....
Auxily. machy.....	.....	.....
Cement and sand.....	.....	.....
Shipwrts. timber	.....	.....
Joinery and accomdn.....	.....	.....
Masts, steel.....	.....	.....
„ wood and derricks.....	.....	.....
Wires, rig, cargo, moorg.....	.....	.....
Anchors and cables.....	.....	.....
Total wood, outfit, cem.	.....	.....
Steaming wt. boilers.....	.....	.....
„ „ engines.....	.....	.....
Shafting and propellor	.....	.....
Sundry and spares	.....	.....
Total machinery wt.	.....	.....

RUDDER—
Immd. area.....Speed.....
Total „ .....Angle.....
Diam. head.....
Distance CG from pintles (G).....
Width to pintles (w).....
Depth immd. (d) .....
Coeff. area : w × d.....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	.....
„ side port.....	.....
„ „ stbd.	.....
„ tween dk.	.....
Total.....	.....

DRAFTS—
Launch.....Displ.....
Engined ..... „ .....
Finished ..... „ .....

OWNERS _____

PORT _____ _____

TONNAGE—
Under deck .....
Erections .....
Excess hatches .....
Light and air .....
Gross .....
Deduct, Crew .....
W. ballast .....
Prop. space .....
Bosn. store .....
Nett register .....

Suez..... Panama. .....

FREEBOARD—
Coeff.....
Centre disc.....
Summer .....
Ind. summer.....
Winter.....
Winter, N.A.....
Fresh water .....

Depth mld.....
Stat. dk. .....
Stringer .....
Keel .....
Total .....
Freebd. .....
Load dr. .....

CAPACITIES—	Grn.	Bls.
No. 1 Hold	.....	.....
,, Hatch	.....	.....
No. 2 Hold	.....	.....
,, Hatch	.....	.....
No. 3 Hold	.....	.....
,, Hatch	.....	.....
No. 4 Hold	.....	.....
,, Hatch	.....	.....
No. 5 Hold	.....	.....
,, Hatch	.....	.....
No. 6 Hold	.....	.....
,, Hatch	.....	.....
Total	.....	.....

W. BALLAST—	Tons.
Fore peak	.....
No. 1 Tank	.....
,, 2 ,,	.....
,, 3 ,,	.....
,, 4 ,,	.....
,, 5 ,,	.....
,, 6 ,,	.....
Lower aft pk	.....
Upper ,, ,,	.....
Total	.....
Fresh water tanks	.....
No. Size	.....
Galls. Tons	.....

SHIPBUILDERS' AUXILS.—
Windlass, size..... Maker.....
Winches, ,, ... ,, ...
,, ,, ... ,, ...
St. st. gear, size..... ,, ...
Screw ,, ,, ... ,, ...
Donkey blr., ,, ... ,, ...

ENGINES, Maker .....
Type .....
Cyl. diam. ..... Stroke.....
Revs. trial ..... Sea .....
I.H.P. ,, ... ,, ...
Consumpt. trial..... ,, ...

BOILERS, Maker .....
Type ..... Number.....
Size ..... Press .....
Furnaces..... Number.....
Grate surf. ..... Heat surf.....
Funnel ht. ..... Diam.....
Proplr. diam..... Pitch .....
,, area ..... Blades .....

ELECTRIC INSTALLATION—
Maker .....
No. lights..... Kilowatts .....
Voltage..... Amps .....
Wireless .....

BOATS –
Lifeboats..... × ..... × ..... Persons .....
,, ... × ..... × ..... ,, ...
Dinghy..... × ..... × .....

HATCHES—	Size.	Coamings.	No. Webs.
No. 1	.....	.....	.....
,, 2	.....	.....	.....
,, 3	.....	.....	.....
,, 4	.....	.....	.....
,, 5	.....	.....	.....
,, 6	.....	.....	.....

COMPLEMENT—
Officers.....
Engrs. .....
Seamen .....
Firemen .....
Petty offrs.....
Stewards .....
Pass. 1 cl.....
,, 2 ,, ...
,, 3 ,, ...
Total.....

ROLLINGS— Weight...
Floors .....
Tank frs. .....
,, R.F. .....
Main frs. .....
,, ,, ...
U. dk. beams .....
L. ,, ,, ...
P.B.F. ,, ...
3 × 3 Sundry .....
Shell .....

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NAME _____

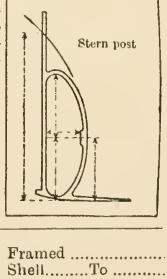
No. _____ REG. DIMENSIONS _____

Type .....
Class .....
Length O.A. ..... B.P. .....
Breadth ex. ..... Mld. .....
Depth hold ..... Mld. .....
Load displ. ..... Draft .....
Speed on trial ..... Sea .....
Adm. con. trial ..... ,, ...
Ratio br. : L.B.P. ..... Depth : draft .....
Light wt. : load ..... Lt. dr. : load .....
Ht. tw. dk. .....
Poop ..... × ..... Br. ..... × ..... Fsle. ..... × .....
Frame spacing .....
Camber .....
Length E. and B. space .....
No. W.T. bhds. .....
Depth dble. bottom .....
Height bulwarks .....
Joggled frames or shell .....

NUMERALS—
B + D ..... Little d .....
L (B + D) .....
Propn. D : L upp. dk. ..... Lower .....
Equipment No. ..... Letter .....

MIDSHIP SECTION OUTLINE—
Rise floor .....
Tumble home .....
Bilge tanges up ..... In .....
,, along diag. to ..... W.L. .....
Tank bottom ..... Top .....
,, bracket height .....
Floors every ..... Frame .....

LINES—
Sheer ford. .....
,, aft .....
Rule sheer .....
Ht. rail .....
Size stem .....
,, post .....
Stern overhang .....
,, % length B.P. ...
Transom width .....
,, % br. mld. ...
Knuckle depth .....
,, overhang .....
,, ,, % of total...
Ll. cr. buoy .....
Shell displ. % .....
Balance bodies .....



DATES—
Order ..... Framed .....
Keel ..... Shell ..... To .....
Double botm. ..... Engrs. ..... To .....
Delivery .....

ESTIMATING SUMMARY—
Cubic number .....
Steel wt. % of cubic ..... % of displ. .....
Machy. wt. % of I.H.P. ..... % of displ. .....
Mean steel wt. ..... Tons .....
,, machy. wt. ..... Tons .....
Wood, outfit, cement ..... Tons .....
Light wt. ..... Tons .....
Dead wt. ..... Tons .....
Load displ. ..... Tons .....

WEIGHTS—	Invoice.	Nett.
Plates		
Sections		
Rivets		
Packing		
Smith, davits, pillars		
Castings		
Forgings		
Total steel and iron		
Auxily. machy.		
Cement and sand		
Shipwrts. timber		
Joinery and accomdn.		
Masts, steel		
,, wood and derricks		
Wires, rig, cargo, moorg.		
Anchors and cables		
Total wood, outfit, cem.		
Steaming wt. boilers		
,, ,, engines		
Shafting and propellor		
Sundry and spares		
Total machinery wt.		

RUDDER—
Immd. area ..... Speed .....
Total ,, ... Angle .....
Diam. head .....
Distance CG from pintles (G) .....
Width to pintles (w) .....
Depth immd. (d) .....
Coeff. area : w × d .....
Coeff. G : w .....
Coeff. area : L × Draft ship .....

BUNKERS, at 45 cu. ft.—	Tons.
Permanent cross	
,, side port	
,, ,, stbd.	
,, tween dk.	
Total	

DRAFTS—
Launch ..... Displ. .....
Engined ..... ,, ...
Finished ..... ,, ...

OWNERS

PORT

TONNAGE—
Under deck
Erections
Excess hatches
Light and air
Gross
Deduct, Crew
W. ballast
Prop. space
Bosn. store
Nett register
Suez Panama

FREEBOARD—
Coeff.
Centre disc.
Summer
Ind. summer
Winter
Winter, N.A.
Fresh water
Depth mld.
Stat. dk.
Stringer
Keel
Total
Freebd.
Load dr.

CAPACITIES—	Grn.	Bls.
No. 1 Hold		
,, Hatch		
No. 2 Hold		
,, Hatch		
No. 3 Hold		
,, Hatch		
No. 4 Hold		
,, Hatch		
No. 5 Hold		
,, Hatch		
No. 6 Hold		
,, Hatch		
Total		

W. BALLAST—	Tons.
Fore peak	
No. 1 Tank	
,, 2 ,,	
,, 3 ,,	
,, 4 ,,	
,, 5 ,,	
,, 6 ,,	
Lower aft pk.	
Upper ,, ,,	
Total	
Fresh water tanks	
No. Size	
Galls. Tons	

SHIPBUILDERS' AUXILS.—
Windlass, size Maker
Winches, ,, ,,
,, ,, ,, ,,
St. st. gear, size ,,
Screw ,, ,, ,,
Donkey blr., ,, ,,

ENGINES, Maker
Type
Cyl. diam. Stroke
Revs. trial Sea
I.H.P. ,, ,,
Consumpt. trial ,,

BOILERS, Maker
Type Number
Size Press
Furnaces Number
Grate surf. Heat surf.
Funnel ht. Diam.
Proplr. diam. Pitch
,, area Blades

ELECTRIC INSTALLATION—
Maker
No. lights Kilowatts
Voltage Amps
Wireless

BOATS—
Lifeboats × × Persons
,, × × ,,
Dinghy × ×

HATCHES—	Size.	Coamings.	No. Webs.
No. 1			
,, 2			
,, 3			
,, 4			
,, 5			
,, 6			

COMPLEMENT—
Officers
Engrs.
Seamen
Firemen
Petty offrs.
Stewards
Pass. 1 cl.
,, 2 ,,
,, 3 ,,
Total

ROLLINGS— Weight...
Floors
Tank frs.
,, R.F.
Main frs.
,, ,,
U. dk. beams
L. ,, ,,
P.B.F. ,,
2 × 3 Sundry
Shell

Draft.	Displ.	Dd. Wt.	Tns. P.I.	Displ. Co.	Prism. Co.	Ll. C.B.	Vrt. C.B.	Trns. B.M.	Cr. Flot.	Ll. B.M.	M.A.T.1"

Angle. Degrees.	Angle. Radians.	Chord.	Sine.	Tangent.	Co-tangent.	Cosine.			
0°	0	000	0	0	∞	1	1·414	1·5708	90°
1	·0175	·017	·0175	·0175	57·2900	·9998	1·402	1·5533	89
2	·0349	·035	·0349	·0349	28·6363	·9994	1·389	1·5359	88
3	·0524	·052	·0523	·0524	19·0811	·9986	1·377	1·5184	87
4	·0698	·070	·0698	·0699	14·3007	·9976	1·364	1·5010	86
5	·0873	·087	·0872	·0875	11·4301	·9962	1·351	1·4835	85
6	·1047	·105	·1045	·1051	9·5144	·9945	1·338	1·4661	84
7	·1222	·122	·1219	·1228	8·1443	·9925	1·326	1·4486	83
8	·1398	·140	·1392	·1405	7·1154	·9903	1·312	1·4312	82
9	·1571	·157	·1564	·1584	6·3138	·9877	1·299	1·4137	81
10	·1745	·174	·1736	·1763	5·6713	·9848	1·286	1·3963	80
11	·1920	·192	·1908	·1944	5·1446	·9816	1·272	1·3788	79
12	·2094	·209	·2079	·2126	4·7046	·9781	1·259	1·3614	78
13	·2269	·226	·2250	·2309	4·3316	·9744	1·245	1·3439	77
14	·2443	·244	·2419	·2493	4·0108	·9703	1·231	1·3265	76
15	·2818	·261	·2588	·2679	3·7321	·9659	1·218	1·3090	75
16	·2793	·278	·2756	·2867	3·4874	·9613	1·204	1·2915	74
17	·2967	·296	·2924	·3057	3·2709	·9563	1·190	1·2741	73
18	·3142	·313	·3090	·3249	3·0777	·9511	1·176	1·2566	72
19	·3316	·330	·3256	·3443	2·9042	·9455	1·161	1·2392	71
20	·3491	·347	·3420	·3640	2·7475	·9397	1·147	1·2217	70
21	·3665	·364	·3584	·3839	2·6051	·9336	1·133	1·2043	69
22	·3840	·382	·3746	·4040	2·4751	·9272	1·118	1·1868	68
23	·4014	·399	·3907	·4245	2·3559	·9205	1·104	1·1694	67
24	·4189	·416	·4067	·4452	2·2460	·9135	1·089	1·1519	66
25	·4363	·433	·4226	·4663	2·1445	·9063	1·075	1·1345	65
26	·4538	·450	·4384	·4877	2·0503	·8988	1·060	1·1170	64
27	·4712	·467	·4540	·5095	1·9626	·8910	1·045	1·0996	63
28	·4887	·484	·4695	·5317	1·8807	·8829	1·030	1·0821	62
29	·5061	·501	·4848	·5543	1·8040	·8746	1·015	1·0647	61
30	·5236	·518	·5000	·5774	1·7321	·8660	1·000	1·0472	60
31	·5411	·534	·5150	·6009	1·6643	·8572	·985	1·0297	59
32	·5585	·551	·5299	·6249	1·6003	·8480	·970	1·0123	58
33	·5760	·568	·5446	·6494	1·5399	·8387	·954	·9948	57
34	·5934	·585	·5592	·6745	1·4826	·8290	·939	·9774	56
35	·6109	·601	·5736	·7002	1·4281	·8192	·923	·9599	55
36	·6283	·618	·5878	·7265	1·3764	·8090	·908	·9425	54
37	·6458	·635	·6018	·7536	1·3270	·7986	·892	·9250	53
38	·6632	·651	·6157	·7813	1·2799	·7880	·877	·9076	52
39	·6807	·668	·6293	·8098	1·2349	·7771	·861	·8901	51
40	·6981	·684	·6428	·8391	1·1918	·7660	·845	·8727	50
41	·7156	·700	·6561	·8693	1·1504	·7547	·829	·8552	49
42	·7330	·717	·6691	·9004	1·1106	·7431	·813	·8378	48
43	·7505	·733	·6820	·9325	1·0724	·7314	·797	·8203	47
44	·7679	·749	·6947	·9657	1·0355	·7193	·781	·8029	46
45°	·7854	·765	·7071	1·0000	1·0000	·7071	·765	·7854	45°
			Cosine.	Co-tangent.	Tangent.	Sine.	Chord.	Radians.	Degrees.
								Angle.	

	0	1	2	3	4	5	6	7	8	9	1 2 3 4	5	6 7 8 9
10	0000	0043	0086	0128	0170	0212	0253	0294	0334	0374	4 9 13 17 4 8 12 16	21 20	25 30 34 38 24 28 32 37
11	0414	0453	0492	0531	0569	0607	0645	0682	0719	0755	4 8 12 15 4 7 11 15	19 19	23 27 31 35 22 26 30 33
12	0792	0828	0864	0899	0934	0969	1004	1038	1072	1106	3 7 11 14 3 7 10 14	18 17	21 25 28 32 20 24 27 31
13	1139	1173	1206	1239	1271	1303	1335	1367	1399	1430	3 7 10 13 3 7 10 12	16 16	20 23 26 30 19 22 25 29
14	1461	1492	1523	1553	1584	1614	1644	1673	1703	1732	3 6 9 12 3 6 9 12	15 15	18 21 24 28 17 20 23 26
15	1761	1790	1818	1847	1875	1903	1931	1959	1987	2014	3 6 9 11 3 6 8 11	14 14	17 20 23 26 16 19 22 25
16	2041	2068	2095	2122	2148	2175	2201	2227	2253	2279	3 5 8 11 3 5 8 10	14 13	16 19 22 24 15 18 21 23
17	2304	2330	2355	2380	2405	2430	2455	2480	2504	2529	3 5 8 10 2 5 7 10	13 12	15 18 20 23 15 17 19 22
18	2553	2577	2601	2625	2648	2672	2695	2718	2742	2765	2 5 7 9 2 5 7 9	12 11	14 16 19 21 14 16 18 21
19	2788	2810	2833	2856	2878	2900	2923	2945	2967	2989	2 4 7 9 2 4 6 8	11 11	13 16 18 20 13 15 17 19
20	3010	3032	3054	3075	3096	3118	3139	3160	3181	3201	2 4 6 8	11	13 15 17 19
21	3222	3243	3263	3284	3304	3324	3345	3365	3385	3404	2 4 6 8	10	12 14 16 18
22	3424	3444	3464	3483	3502	3522	3541	3560	3579	3598	2 4 6 8	10	12 14 16 17
23	3617	3636	3655	3674	3692	3711	3729	3747	3766	3784	2 4 6 7	9	11 13 15 17
24	3802	3820	3838	3856	3874	3892	3909	3927	3945	3962	2 4 5 7	9	11 12 14 16
25	3979	3997	4014	4031	4048	4065	4082	4099	4116	4133	2 3 5 7	9	10 12 14 15
26	4150	4166	4183	4200	4216	4232	4249	4265	4281	4298	2 3 5 7	8	10 11 13 15
27	4314	4330	4346	4362	4378	4393	4409	4425	4440	4456	2 3 5 6	8	9 11 13 14
28	4472	4487	4502	4518	4533	4548	4564	4579	4594	4609	2 3 5 6	8	9 11 12 14
29	4624	4639	4654	4669	4683	4698	4713	4728	4742	4757	1 3 4 6	7	9 10 12 13
30	4771	4786	4800	4814	4829	4843	4857	4871	4886	4900	1 3 4 6	7	9 10 11 13
31	4914	4928	4942	4955	4969	4983	4997	5011	5024	5038	1 3 4 6	7	8 10 11 12
32	5051	5065	5079	5092	5105	5119	5132	5145	5159	5172	1 3 4 5	7	8 9 11 12
33	5185	5198	5211	5224	5237	5250	5263	5276	5289	5302	1 3 4 5	6	8 9 10 12
34	5315	5328	5340	5353	5366	5378	5391	5403	5416	5428	1 3 4 5	6	8 9 10 11
35	5441	5453	5465	5478	5490	5502	5514	5527	5539	5551	1 2 4 5	6	7 9 10 11
36	5563	5575	5587	5599	5611	5623	5635	5647	5658	5670	1 2 4 5	6	7 8 10 11
37	5682	5694	5705	5717	5729	5740	5752	5763	5775	5786	1 2 3 5	6	7 8 9 10
38	5798	5809	5821	5832	5843	5855	5866	5877	5888	5899	1 2 3 5	6	7 8 9 10
39	5911	5922	5933	5944	5955	5966	5977	5988	5999	6010	1 2 3 4	5	7 8 9 10
40	6021	6031	6042	6053	6064	6075	6085	6096	6107	6117	1 2 3 4	5	6 8 9 10
41	6128	6138	6149	6160	6170	6180	6191	6201	6212	6222	1 2 3 4	5	6 7 8 9
42	6232	6243	6253	6263	6274	6284	6294	6304	6314	6325	1 2 3 4	5	6 7 8 9
43	6335	6345	6355	6365	6375	6385	6395	6405	6415	6425	1 2 3 4	5	6 7 8 9
44	6435	6444	6454	6464	6474	6484	6493	6503	6513	6522	1 2 3 4	5	6 7 8 9
45	6532	6542	6551	6561	6571	6580	6590	6599	6609	6618	1 2 3 4	5	6 7 8 9
46	6628	6637	6646	6656	6665	6675	6684	6693	6702	6712	1 2 3 4	5	6 7 7 8
47	6721	6730	6739	6749	6758	6767	6776	6785	6794	6803	1 2 3 4	5	5 6 7 8
48	6812	6821	6830	6839	6848	6857	6866	6875	6884	6893	1 2 3 4	4	5 6 7 8
49	6902	6911	6920	6928	6937	6946	6955	6964	6972	6981	1 2 3 4	4	5 6 7 8
50	6990	6998	7007	7016	7024	7033	7042	7050	7059	7067	1 2 3 3	4	5 6 7 8

	0	1	2	3	4	5	6	7	8	9	1 2 3 4	5	6 7 8 9
51	7076	7084	7093	7101	7110	7118	7126	7135	7143	7152	1 2 3 3	4	5 6 7 8
52	7160	7168	7177	7185	7193	7202	7210	7218	7226	7235	1 2 2 3	4	5 6 7 7
53	7243	7251	7259	7267	7275	7284	7292	7300	7308	7316	1 2 2 3	4	5 6 6 7
54	7324	7332	7340	7348	7356	7364	7372	7380	7388	7396	1 2 2 3	4	5 6 6 7
55	7404	7412	7419	7427	7435	7443	7451	7459	7466	7474	1 2 2 3	4	5 5 6 7
56	7482	7490	7497	7505	7513	7520	7528	7536	7543	7551	1 2 2 3	4	5 5 6 7
57	7559	7566	7574	7582	7589	7597	7604	7612	7619	7627	1 2 2 3	4	5 5 6 7
58	7634	7642	7649	7657	7664	7672	7679	7686	7694	7701	1 1 2 3	4	4 5 6 7
59	7709	7716	7723	7731	7738	7745	7752	7760	7767	7774	1 1 2 3	4	4 5 6 7
60	7782	7789	7796	7803	7810	7818	7825	7832	7839	7846	1 1 2 3	4	4 5 6 6
61	7853	7860	7868	7875	7882	7889	7896	7903	7910	7917	1 1 2 3	4	4 5 6 6
62	7924	7931	7938	7945	7952	7959	7966	7973	7980	7987	1 1 2 3	3	4 5 6 6
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66	8195	8202	8209	8215	8222	8228	8235	8241	8248	8254	1 1 2 3	3	4 5 5 6
67	8261	8267	8274	8280	8287	8293	8299	8306	8312	8319	1 1 2 3	3	4 5 5 6
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70	8451	8457	8463	8470	8476	8482	8488	8494	8500	8506	1 1 2 2	3	4 4 5 6
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73	8633	8639	8645	8651	8657	8663	8669	8675	8681	8686	1 1 2 2	3	4 4 5 5
74	8692	8698	8704	8710	8716	8722	8727	8733	8739	8745	1 1 2 2	3	4 4 5 5
75	8751	8756	8762	8768	8774	8779	8785	8791	8797	8802	1 1 2 2	3	3 4 5 5
76	8808	8814	8820	8825	8831	8837	8842	8848	8854	8859	1 1 2 2	3	3 4 5 5
77	8865	8871	8876	8882	8887	8893	8899	8904	8910	8915	1 1 2 2	3	3 4 4 5
78	8921	8927	8932	8938	8943	8949	8954	8960	8965	8971	1 1 2 2	3	3 4 4 5
79	8976	8982	8987	8993	8998	9004	9009	9015	9020	9025	1 1 2 2	3	3 4 4 5
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81	9085	9090	9096	9101	9106	9112	9117	9122	9128	9133	1 1 2 2	3	3 4 4 5
82	9138	9143	9149	9154	9159	9165	9170	9175	9180	9186	1 1 2 2	3	3 4 4 5
83	9191	9196	9201	9206	9212	9217	9222	9227	9232	9238	1 1 2 2	3	3 4 4 5
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86	9345	9350	9355	9360	9365	9370	9375	9380	9385	9390	1 1 2 2	3	3 4 4 5
87	9395	9400	9405	9410	9415	9420	9425	9430	9435	9440	0 1 1 2	2	3 3 4 4
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91	9590	9595	9600	9605	9609	9614	9619	9624	9628	9633	0 1 1 2	2	3 3 4 4
92	9638	9643	9647	9652	9657	9661	9666	9671	9675	9680	0 1 1 2	2	3 3 4 4
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94	9731	9736	9741	9745	9750	9754	9759	9763	9768	9773	0 1 1 2	2	3 3 4 4
95	9777	9782	9786	9791	9795	9800	9805	9809	9814	9818	0 1 1 2	2	3 3 4 4
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97	9868	9872	9877	9881	9886	9890	9894	9899	9903	9908	0 1 1 2	2	3 3 4 4
98	9912	9917	9921	9926	9930	9934	9939	9943	9948	9952	0 1 1 2	2	3 3 4 4
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	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
·00	1000	1002	1005	1007	1009	1012	1014	1016	1019	1021	0	0	1	1	1	1	2	2	2
·01	1023	1026	1028	1030	1033	1035	1038	1040	1042	1045	0	0	1	1	1	1	2	2	2
·02	1047	1050	1052	1054	1057	1059	1062	1064	1067	1069	0	0	1	1	1	1	2	2	2
·03	1072	1074	1076	1079	1081	1084	1086	1089	1091	1094	0	0	1	1	1	1	2	2	2
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·05	1122	1125	1127	1130	1132	1135	1138	1140	1143	1146	0	1	1	1	1	2	2	2	2
·06	1148	1151	1153	1156	1159	1161	1164	1167	1169	1172	0	1	1	1	1	2	2	2	2
·07	1175	1178	1180	1183	1186	1189	1191	1194	1197	1199	0	1	1	1	1	2	2	2	2
·08	1202	1205	1208	1211	1213	1216	1219	1222	1225	1227	0	1	1	1	1	2	2	2	3
·09	1230	1233	1236	1239	1242	1245	1247	1250	1253	1256	0	1	1	1	1	2	2	2	3
·10	1259	1262	1265	1268	1271	1274	1276	1279	1282	1285	0	1	1	1	1	2	2	2	3
·11	1288	1291	1294	1297	1300	1303	1306	1309	1312	1315	0	1	1	1	2	2	2	2	3
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·19	1549	1552	1556	1560	1563	1567	1570	1574	1578	1581	0	1	1	1	2	2	3	3	3
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·27	1862	1866	1871	1875	1879	1884	1888	1892	1897	1901	0	1	1	2	2	3	3	3	4
·28	1905	1910	1914	1919	1923	1928	1932	1936	1941	1945	0	1	1	2	2	3	3	4	4
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·30	1995	2000	2004	2009	2014	2018	2023	2028	2032	2037	0	1	1	2	2	3	3	4	4
·31	2042	2046	2051	2056	2061	2065	2070	2075	2080	2084	0	1	1	2	2	3	3	4	4
·32	2089	2094	2099	2104	2109	2113	2118	2123	2128	2133	0	1	1	2	2	3	3	4	4
·33	2138	2143	2148	2153	2158	2163	2168	2173	2178	2183	0	1	1	2	2	3	3	4	4
·34	2188	2193	2198	2203	2208	2213	2218	2223	2228	2234	1	1	2	2	3	3	4	4	5
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·41	2570	2576	2582	2588	2594	2600	2606	2612	2618	2624	1	1	2	2	3	4	4	5	5
·42	2630	2636	2642	2649	2655	2661	2667	2673	2679	2685	1	1	2	2	3	4	4	5	6
·43	2692	2698	2704	2710	2716	2723	2729	2735	2742	2748	1	1	2	3	3	4	4	5	6
·44	2754	2761	2767	2773	2780	2786	2793	2799	2805	2812	1	1	2	3	3	4	4	5	6
·45	2818	2825	2831	2838	2844	2851	2858	2864	2871	2877	1	1	2	3	3	4	5	5	6
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·47	2951	2958	2965	2972	2979	2985	2992	2999	3006	3013	1	1	2	3	3	4	5	5	6
·48	3020	3027	3034	3041	3048	3055	3062	3069	3076	3083	1	1	2	3	4	4	5	6	6
·49	3090	3097	3105	3112	3119	3126	3133	3141	3148	3155	1	1	2	3	4	4	5	6	6

	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
·50	3162	3170	3177	3184	3192	3199	3206	3214	3221	3228	1	1	2	3	4	4	5	6	7
·51	3236	3243	3251	3258	3266	3273	3281	3289	3296	3304	1	2	2	3	4	5	5	6	7
·52	3311	3319	3327	3334	3342	3350	3357	3365	3373	3381	1	2	2	3	4	5	5	6	7
·53	3388	3396	3404	3412	3420	3428	3436	3443	3451	3459	1	2	2	3	4	5	6	6	7
·54	3467	3475	3483	3491	3499	3508	3516	3524	3532	3540	1	2	2	3	4	5	6	6	7
·55	3548	3556	3565	3573	3581	3589	3597	3606	3614	3642	1	2	2	3	4	5	6	7	7
·56	3631	3639	3648	3656	3664	3673	3681	3690	3698	3707	1	2	3	3	4	5	6	7	8
·57	3715	3724	3733	3741	3750	3758	3767	3776	3784	3793	1	2	3	3	4	5	6	7	8
·58	3802	3811	3819	3828	3837	3846	3855	3864	3873	3882	1	2	3	4	4	5	6	7	8
·59	3890	3899	3908	3917	3926	3936	3945	3954	3963	3972	1	2	3	4	5	5	6	7	8
·60	3981	3990	3999	4009	4018	4027	4036	4046	4055	4064	1	2	3	4	5	6	6	7	8
·61	4074	4083	4093	4102	4111	4121	4130	4140	4150	4159	1	2	3	4	5	6	7	8	9
·62	4169	4178	4188	4198	4207	4217	4227	4236	4246	4256	1	2	3	4	5	6	7	8	9
·63	4266	4276	4285	4295	4305	4315	4325	4335	4345	4355	1	2	3	4	5	6	7	8	9
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·66	4571	4581	4592	4603	4613	4624	4634	4645	4656	4667	1	2	3	4	5	6	7	9	10
·67	4677	4688	4699	4710	4721	4732	4742	4753	4764	4775	1	2	3	4	5	7	8	9	10
·68	4786	4797	4808	4819	4831	4842	4853	4864	4875	4887	1	2	3	4	6	7	8	9	10
·69	4898	4909	4920	4932	4943	4955	4966	4977	4989	5000	1	2	3	5	6	7	8	9	10
·70	5012	5023	5035	5047	5058	5070	5082	5093	5105	5117	1	2	4	5	6	7	8	9	11
·71	5129	5140	5152	5164	5176	5188	5200	5212	5224	5236	1	2	4	5	6	7	8	10	11
·72	5248	5260	5272	5284	5297	5309	5321	5333	5346	5358	1	2	4	5	6	7	9	10	11
·73	5370	5383	5395	5408	5420	5433	5445	5458	5470	5483	1	3	4	5	6	8	9	10	11
·74	5495	5508	5521	5534	5546	5559	5572	5585	5598	5610	1	3	4	5	6	8	9	10	12
·75	5623	5636	5649	5662	5675	5689	5702	5715	5728	5741	1	3	4	5	7	8	9	10	12
·76	5754	5768	5781	5794	5808	5821	5834	5848	5861	5875	1	3	4	5	7	8	9	11	12
·77	5888	5902	5916	5929	5943	5957	5970	5984	5998	6012	1	3	4	5	7	8	10	11	12
·78	6026	6039	6053	6067	6081	6095	6109	6124	6138	6152	1	3	4	6	7	8	10	11	13
·79	6166	6180	6194	6209	6223	6237	6252	6266	6281	6295	1	3	4	6	7	9	10	11	13
·80	6310	6324	6339	6353	6368	6383	6397	6412	6427	6442	1	3	4	6	7	9	10	12	13
·81	6457	6471	6486	6501	6516	6531	6546	6561	6577	6592	2	3	5	6	8	9	11	12	14
·82	6607	6622	6637	6653	6668	6683	6699	6714	6730	6745	2	3	5	6	8	9	11	12	14
·83	6761	6776	6792	6808	6823	6839	6855	6871	6887	6902	2	3	5	6	8	9	11	13	14
·84	6918	6934	6950	6966	6982	6998	7015	7031	7047	7063	2	3	5	6	8	10	11	13	15
·85	7079	7096	7112	7129	7145	7161	7178	7194	7211	7228	2	3	5	7	8	10	12	13	15
·86	7244	7261	7278	7295	7311	7328	7345	7362	7379	7396	2	3	5	7	8	10	12	13	15
·87	7413	7430	7447	7464	7482	7499	7516	7534	7551	7568	2	3	5	7	9	10	12	14	16
·88	7586	7603	7621	7638	7656	7674	7691	7709	7727	7745	2	4	5	7	9	11	12	14	16
·89	7762	7780	7798	7816	7834	7852	7870	7889	7907	7925	2	4	5	7	9	11	13	14	16
·90	7943	7962	7980	7998	8017	8035	8054	8072	8091	8110	2	4	6	7	9	11	13	15	17
·91	8128	8147	8166	8185	8204	8222	8241	8260	8279	8299	2	4	6	8	9	11	13	15	17
·92	8318	8337	8356	8375	8395	8414	8433	8453	8472	8492	2	4	6	8	10	12	14	15	17
·93	8511	8531	8551	8570	8590	8610	8630	8650	8670	8690	2	4	6	8	10	12	14	16	18
·94	8710	8730	8750	8770	8790	8810	8831	8851	8872	8892	2	4	6	8	10	12	14	16	18
·95	8913	8933	8954	8974	8995	9016	9036	9057	9078	9099	2	4	6	8	10	12	15	17	19
·96	9120	9141	9162	9183	9204	9226	9247	9268	9290	9311	2	4	6	8	11	13	15	17	19
·97	9333	9354	9376	9397	9419	9441	9462	9484	9506	9528	2	4	7	9	11	13	15	17	20
·98	9550	9572	9594	9616	9638	9661	9683	9705	9727	9750	2	4	7	9	11	13	16	18	20
·99	9772	9795	9817	9840	9863	9886	9908	9931	9954	9977	2	5	7	9	11	14	16	18	20

Number.	Square.	Cube.	$\sqrt{}$	$\sqrt[3]{}$	Number.	Square.	Cube.	$\sqrt{}$	$\sqrt[3]{}$
1	1	1	1·0	1·0	51	2601	132651	7·141	3·708
2	4	8	1·4142	1·26	52	2704	140608	7·211	3·732
3	9	27	1·732	1·442	53	2809	148877	7·28	3·756
4	16	64	2	1·587	54	2916	157464	7·349	3·78
5	25	125	2·236	1·71	55	3025	166375	7·416	3·8
6	36	216	2·449	1·817	56	3136	175616	7·483	3·826
7	49	343	2·646	1·913	57	3249	185193	7·55	3·849
8	64	512	2·828	2	58	3364	195112	7·616	3·87
9	81	729	3	2·08	59	3481	205379	7·681	3·893
10	100	1000	3·162	2·15	60	3600	216000	7·746	3·915
11	121	1331	3·317	2·224	61	3721	226981	7·810	3·936
12	144	1728	3·464	2·289	62	3844	238328	7·874	3·958
13	169	2197	3·606	2·351	63	3969	250047	7·937	3·98
14	196	2744	3·742	2·410	64	4096	262144	8	4
15	225	3375	3·873	2·466	65	4225	274625	8·062	4·02
16	256	4096	4	2·52	66	4356	287496	8·124	4·041
17	289	4913	4·123	2·571	67	4489	300763	8·185	4·061
18	324	5832	4·243	2·621	68	4624	314432	8·246	4·082
19	361	6859	4·359	2·668	69	4761	328509	8·307	4·102
20	400	8000	4·472	2·714	70	4900	343000	8·367	4·121
21	441	9261	4·583	2·759	71	5041	357911	8·426	4·141
22	484	10648	4·69	2·802	72	5184	373248	8·485	4·16
23	529	12167	4·796	2·844	73	5329	389017	8·544	4·179
24	576	13824	4·9	2·885	74	5476	405224	8·602	4·198
25	625	15625	5	2·924	75	5625	421875	8·66	4·217
26	676	17576	5·099	2·963	76	5776	438976	8·718	4·236
27	729	19683	5·196	3	77	5929	456533	8·775	4·254
28	784	21952	5·292	3·037	78	6084	474552	8·832	4·273
29	841	24389	5·385	3·072	79	6241	493039	8·888	4·291
30	900	27000	5·477	3·107	80	6400	512000	8·944	4·309
31	961	29791	5·568	3·141	81	6561	531441	9·0	4·327
32	1024	32768	5·657	3·175	82	6724	551368	9·055	4·344
33	1089	35937	5·745	3·208	83	6889	571787	9·11	4·362
34	1156	39304	5·831	3·24	84	7056	592704	9·165	4·379
35	1225	42875	5·916	3·271	85	7225	614125	9·22	4·397
36	1296	46656	6	3·302	86	7396	636056	9·274	4·414
37	1369	50653	6·083	3·332	87	7569	658503	9·327	4·431
38	1444	54872	6·164	3·362	88	7744	681472	9·38	4·448
39	1521	59319	6·245	3·391	89	7921	704969	9·434	4·465
40	1600	64000	6·325	3·42	90	8100	729000	9·487	4·481
41	1681	68921	6·403	3·448	91	8281	753571	9·539	4·498
42	1764	74088	6·481	3·476	92	8464	778688	9·592	4·514
43	1849	79507	6·557	3·503	93	8649	804357	9·644	4·531
44	1936	85184	6·633	3·530	94	8836	830584	9·695	4·547
45	2025	91125	6·708	3·557	95	9025	857375	9·747	4·563
46	2116	97336	6·782	3·583	96	9216	884736	9·798	4·579
47	2209	103823	6·856	3·609	97	9409	912673	9·849	4·595
48	2304	110592	6·928	3·634	98	9604	941192	9·9	4·61
49	2401	117649	7	3·659	99	9801	970300	9·95	4·626
50	2500	125000	7·071	3·684	100	10000	1000000	10	4·642

Number.	Square.	Cube.	$\sqrt{}$	$\sqrt[3]{}$	Number.	Square.	Cube.	$\sqrt{}$	$\sqrt[3]{}$
101	10201	1030301	10·05	4·657	151	22801	3442951	12·288	5·325
102	10404	1061208	10·1	4·672	152	23104	3511810	12·329	5·337
103	10609	1092727	10·149	4·687	153	23409	3581580	12·369	5·349
104	10816	1124864	10·198	4·703	154	23716	3652270	12·41	5·36
105	11025	1157625	10·247	4·718	155	24025	3723880	12·45	5·372
106	11236	1191016	10·296	4·733	156	24336	3796420	12·49	5·383
107	11449	1225043	10·344	4·748	157	24649	3869890	12·53	5·395
108	11664	1259712	10·392	4·762	158	24964	3944310	12·57	5·406
109	11881	1295029	10·44	4·777	159	25281	4019680	12·61	5·418
110	12100	1331000	10·488	4·791	160	25600	4096000	12·65	5·429
111	12321	1367630	10·536	4·806	161	25921	4173280	12·69	5·44
112	12544	1404930	10·583	4·82	162	26244	4251530	12·73	5·451
113	12769	1442900	10·63	4·835	163	26569	4330750	12·77	5·463
114	12996	1481540	10·677	4·849	164	26896	4410940	12·81	5·474
115	13225	1520880	10·724	4·863	165	27225	4492130	12·85	5·485
116	13456	1560900	10·77	4·877	166	27556	4574300	12·884	5·496
117	13689	1601610	10·817	4·891	167	27889	4657460	12·923	5·507
118	13924	1643030	10·863	4·905	168	28224	4741630	12·962	5·518
119	14161	1685160	10·909	4·919	169	28561	4826810	13	5·529
120	14400	1728000	10·955	4·932	170	28900	4913000	13·038	5·54
121	14641	1771560	11	4·946	171	29241	5000210	13·077	5·55
122	14884	1815850	11·045	4·96	172	29584	5088450	13·115	5·56
123	15129	1860870	11·09	4·973	173	29929	5177720	13·153	5·572
124	15376	1906620	11·136	4·987	174	30276	5268020	13·191	5·583
125	15625	1953125	11·18	5	175	30625	5359380	13·229	5·593
126	15876	2000376	11·225	5·013	176	30976	5451780	13·267	5·604
127	16129	2048383	11·269	5·027	177	31329	5545230	13·304	5·615
128	16384	2097152	11·314	5·04	178	31684	5639750	13·342	5·625
129	16641	2146689	11·358	5·053	179	32041	5735340	13·379	5·636
130	16900	2197000	11·402	5·066	180	32400	5832000	13·416	5·646
131	17161	2248090	11·446	5·079	181	32761	5929740	13·454	5·657
132	17424	2299970	11·489	5·092	182	33124	6028570	13·49	5·667
133	17689	2352640	11·533	5·105	183	33489	6128490	13·528	5·677
134	17956	2406100	11·576	5·117	184	33856	6229500	13·565	5·688
135	18225	2460380	11·619	5·13	185	34225	6331630	13·602	5·698
136	18496	2515460	11·662	5·143	186	34596	6434860	13·638	5·71
137	18769	2571350	11·705	5·155	187	34969	6539200	13·675	5·719
138	19044	2628070	11·747	5·168	188	35344	6644670	13·711	5·729
139	19321	2685620	11·79	5·18	189	35721	6751270	13·748	5·739
140	19600	2744000	11·832	5·193	190	36100	6859000	13·784	5·749
141	19881	2803220	11·874	5·205	191	36481	6967870	13·82	5·759
142	20164	2863290	11·916	5·217	192	36864	7077890	13·856	5·769
143	20449	2924210	11·958	5·229	193	37249	7189060	13·892	5·779
144	20736	2985980	12	5·242	194	37636	7301380	13·928	5·789
145	21025	3048630	12·042	5·254	195	38025	7414880	13·964	5·799
146	21316	3112140	12·083	5·266	196	38416	7529540	14	5·809
147	21609	3176520	12·124	5·278	197	38809	7645370	14·036	5·819
148	21904	3241790	12·166	5·29	198	39204	7762390	14·071	5·829
149	22201	3307950	12·207	5·302	199	39601	7880600	14·107	5·838
150	22500	3375000	12·247	5·313	200	40000	8000000	14·142	5·848

Number.	Square.	Cube.	$\sqrt{}$.	$\sqrt[3]{}$.	Number.	Square.	Cube.	$\sqrt{}$.	$\sqrt[3]{}$.
201	40401	8120601	14·177	5·858	251	63001	15813250	15·843	6·308
202	40804	8242408	14·213	5·868	252	63504	16003010	15·874	6·316
203	41209	8365427	14·248	5·877	253	64009	16194280	15·906	6·325
204	41616	8489664	14·283	5·887	254	64516	16387060	15·937	6·333
205	42025	8615125	14·318	5·896	255	65025	16581370	15·969	6·341
206	42436	8741816	14·353	5·906	256	65536	16777220	16·0	6·35
207	42849	8869743	14·388	5·916	257	66049	16974590	16·031	6·358
208	43264	8998912	14·422	5·925	258	66565	17173510	16·062	6·366
209	43681	9129329	14·457	5·935	259	67081	17373980	16·094	6·374
210	44100	9261000	14·491	5·944	260	67600	17576000	16·125	6·383
211	44521	9393931	14·526	5·953	261	68121	17779580	16·156	6·391
212	44944	9528128	14·560	5·963	262	68644	17984730	16·186	6·4
213	45369	9663597	14·595	5·973	263	69169	18191450	16·217	6·407
214	45796	9800344	14·629	5·981	264	69696	18399740	16·248	6·415
215	46225	9938375	14·663	5·991	265	70225	18609630	16·280	6·423
216	46656	10077696	14·697	6	266	70756	18821100	16·31	6·431
217	47089	10218313	14·731	6·000	267	71289	19034160	16·34	6·439
218	47524	10360232	14·765	6·018	268	71824	19248830	16·371	6·447
219	47961	10503460	14·799	6·028	269	72361	19465110	16·401	6·455
220	48400	10648000	14·832	6·037	270	72900	19683000	16·432	6·463
221	48841	10793861	14·866	6·046	271	73441	19902510	16·462	6·471
222	49284	10941048	14·9	6·055	272	73984	20123650	16·492	6·479
223	49729	11089567	14·933	6·064	273	74529	20346420	16·523	6·487
224	50176	11239424	14·967	6·073	274	75076	20570820	16·553	6·495
225	50625	11390625	15	6·082	275	75625	20796880	16·583	6·503
226	51076	11543176	15·033	6·091	276	76176	21024580	16·613	6·511
227	51529	11697083	15·066	6·1	277	76729	21253930	16·643	6·518
228	51984	11852352	15·1	6·109	278	77284	21484950	16·673	6·527
229	52441	12008990	15·133	6·118	279	77841	21717640	16·703	6·534
230	52900	12167000	15·166	6·127	280	78400	21952000	16·733	6·541
231	53361	12326400	15·2	6·136	281	78961	22188040	16·763	6·55
232	53824	12487170	15·231	6·145	282	79524	22425768	16·793	6·558
233	54289	12649340	15·264	6·153	283	80089	22665200	16·823	6·565
234	54756	12812900	15·3	6·162	284	80656	22906300	16·853	6·573
235	55225	12977900	15·33	6·171	285	81225	23149130	16·882	6·581
236	55696	13144200	15·362	6·18	286	81796	23393660	16·911	6·589
237	56169	13312050	15·395	6·188	287	82369	23639900	16·941	6·596
238	56644	13481270	15·427	6·197	288	82944	23887870	16·971	6·604
239	57121	13651920	15·46	6·206	289	83521	24137570	17·0	6·612
240	57600	13824000	15·492	6·215	290	84100	24389000	17·03	6·619
241	58081	13997520	15·524	6·223	291	84681	24642170	17·059	6·627
242	58564	14172490	15·556	6·232	292	85264	24897090	17·088	6·634
243	59049	14348900	15·589	6·24	293	85849	25153760	17·117	6·642
244	59536	14526780	15·62	6·249	294	86436	25412180	17·146	6·649
245	60025	14706130	15·652	6·257	295	87025	25672380	17·176	6·657
246	60516	14886940	15·684	6·266	296	87616	25934340	17·205	6·664
247	61009	15069220	15·716	6·274	297	88209	26198073	17·234	6·672
248	61504	15252990	15·748	6·283	298	88804	26463590	17·263	6·679
249	62001	15438250	15·78	6·291	299	89401	26730900	17·292	6·687
250	62500	15625000	15·811	6·3	300	90000	2700000	17·32	6·694

Number.	Square.	Cube.	$\surd$	$\sqrt[3]{}$	Number.	Square.	Cube.	$\surd$	$\sqrt[3]{}$
301	90601	27270900	17·349	6·702	351	123201	43243550	18·735	7·054
302	91204	27543608	17·378	6·709	352	123904	43614208	18·762	7·061
303	91809	27818130	17·407	6·717	353	124609	43987700	18·788	7·067
304	92416	28094464	17·435	6·724	354	125316	44361864	18·815	7·074
305	93025	28372630	17·464	6·731	355	126025	44738880	18·841	7·081
306	93636	28652616	17·493	6·739	356	126736	45118016	18·868	7·087
307	94249	28934443	17·521	6·746	357	127449	45499290	18·894	7·094
308	94864	29218112	17·55	6·753	358	128164	45882712	18·921	7·1
309	95481	29503630	17·578	6·761	359	128881	46268280	18·947	7·107
310	96100	29791000	17·607	6·768	360	129600	46656000	18·974	7·114
311	96721	30080230	17·635	6·775	361	130321	47045880	19	7·12
312	97344	30371328	17·664	6·782	362	131044	47437928	19·026	7·127
313	97969	30664300	17·692	6·79	363	131769	47832150	19·053	7·133
314	98596	30959144	17·72	6·797	364	132496	48228544	19·079	7·14
315	99225	31255880	17·748	6·804	365	133225	48627130	19·105	7·147
316	99856	31554496	17·776	6·811	366	133956	49027896	19·131	7·153
317	100489	31855010	18·805	6·819	367	134689	49430860	19·157	7·16
318	101124	32157432	17·833	6·826	368	135424	49836032	19·183	7·166
319	101761	32461760	17·861	6·833	369	136161	50243410	19·209	7·173
320	102400	32768000	17·889	6·84	370	136900	50653000	19·235	7·179
321	103041	33076160	17·917	6·847	371	137641	51064810	19·261	7·186
322	103684	33386248	17·944	6·854	372	138384	51478848	19·287	7·192
323	104329	33698270	17·972	6·861	373	139129	51895120	19·31	7·198
324	104976	34012224	18	6·868	374	139876	52313624	19·34	7·205
325	105625	34328130	18·028	6·875	375	140625	52734380	19·365	7·211
326	106276	34645976	18·056	6·882	376	141376	53157376	19·391	7·218
327	106929	34965780	18·083	6·889	377	142129	53582630	19·417	7·224
328	107584	35287552	18·11	6·896	378	142884	54010152	19·442	7·23
329	108241	35611290	18·138	6·903	379	143641	54439940	19·468	7·237
330	108900	35937000	18·166	6·91	380	144400	54872000	19·494	7·243
331	109561	36264690	18·193	6·917	381	145161	55306340	19·52	7·25
332	110224	36593368	18·22	6·924	382	145924	55742968	19·545	7·256
333	110889	36926040	18·248	6·931	383	146689	56181890	19·57	7·262
334	111556	37259704	18·276	6·938	384	147456	56623104	19·596	7·269
335	112225	37595380	18·303	6·945	385	148225	57066630	19·621	7·275
336	112896	37933056	18·33	6·952	386	148996	57512456	19·647	7·281
337	113569	38272753	18·358	6·959	387	149769	5790600	19·672	7·287
338	114244	38614472	18·385	6·966	388	150544	58411072	19·7	7·294
339	114921	38958220	18·412	6·973	389	151321	58863870	17·723	7·3
340	115600	39304000	18·439	6·98	390	152100	59319000	19·748	7·306
341	116281	39651820	18·466	6·986	391	152881	59776470	19·774	7·312
342	116964	40001688	18·493	6·993	392	153664	60236288	19·8	7·319
343	117649	40353610	18·52	7	393	154449	60698460	19·824	7·325
344	118336	40707584	18·547	7·007	394	155236	61162984	19·849	7·331
345	119025	41063630	18·574	7·014	395	156025	61629880	19·875	7·337
346	119716	41421736	18·601	7·02	396	156816	62099136	19·9	7·343
347	120409	41781920	18·628	7·027	397	157609	62570770	19·925	7·35
348	121104	42144192	18·655	7·034	398	158404	63044792	19·95	7·356
349	121801	42508550	18·682	7·041	399	159201	63521200	19·975	7·362
350	122500	42875000	18·708	7·047	400	16000	64000000	20	7·368

Diam.	0	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
0		·012	·049	·110	·196	·307	·442	·601
1	·785	·994	1·227	1·485	1·767	2·074	2·405	2·761
2	3·142	3·547	3·976	4·43	4·909	5·412	5·94	6·49
3	7·069	7·67	8·296	8·946	9·62	10·32	11·045	11·79
4	12·566	13·364	14·186	15·033	15·9	16·8	17·72	18·66
5	19·635	20·629	21·648	22·691	23·76	24·85	25·97	27·11
6	28·274	29·465	30·68	31·92	33·183	34·472	35·785	37·122
7	38·485	39·87	41·28	42·718	44·179	45·664	47·173	48·707
8	50·265	51·85	53·456	55·088	56·745	58·426	60·132	61·86
9	63·617	65·397	67·20	69·029	70·88	72·76	74·66	76·59
10	78·54	80·516	82·516	84·54	86·59	88·664	90·76	92·886
11	95·03	97·2	99·4	101·62	103·87	106·14	108·43	110·76
12	113·1	115·47	117·86	120·28	122·72	125·2	127·68	130·19
13	132·73	135·3	137·89	140·5	143·14	145·8	148·49	151·2
14	153·94	156·7	159·48	162·3	165·13	168·0	170·87	173·78
15	176·71	179·67	182·65	185·66	188·69	191·75	194·83	197·93
16	201·06	204·22	207·39	210·6	213·82	217·08	220·35	223·65
17	226·98	230·33	233·71	237·1	240·53	243·98	247·45	250·95
18	254·47	258·0	261·59	265·18	268·8	272·45	276·12	279·81
19	283·53	287·27	291·04	294·83	298·65	302·5	306·35	310·24
20	314·16	318·1	322·06	326·06	330·06	334·1	338·16	342·25
21	346·36	350·5	354·66	358·84	363·05	367·28	371·54	375·83
22	380·13	384·46	388·82	393·2	397·61	402·04	406·49	410·97
23	415·48	420·0	424·56	429·13	433·74	438·36	443·01	447·69
24	452·39	457·11	461·86	466·64	471·44	476·26	481·11	485·98
25	490·87	495·79	500·7	505·7	510·7	515·72	520·77	525·84
26	530·93	536·0	541·2	546·35	551·55	556·76	562·0	567·27
27	572·56	577·87	583·2	588·57	593·96	599·36	604·8	610·27
28	615·75	621·26	626·8	632·36	637·94	643·55	649·18	654·84
29	660·52	666·23	671·96	677·71	683·49	689·3	695·13	700·97
30	706·86	712·76	718·69	724·64	730·62	736·62	742·64	748·69
31	754·77	760·87	767·0	773·14	779·31	785·51	791·73	797·98
32	804·25	810·54	816·86	823·21	829·58	835·97	842·39	848·83
33	855·3	861·8	868·31	874·85	881·41	888·0	894·62	901·26
34	907·9	914·6	921·32	928·06	934·82	941·62	948·42	955·25
35	962·1	969·0	975·91	982·84	989·8	996·78	1003·8	1010·8
36	1017·9	1025·0	1032·1	1039·2	1046·3	1053·5	1060·7	1068
37	1075·2	1082·5	1089·8	1097·1	1104·5	1111·8	1119·2	1126·7
38	1134·1	1141·6	1149·1	1156·6	1164·2	1171·7	1179·3	1186·9
39	1194·6	1202·3	1210·0	1217·7	1225·4	1233·2	1241·0	1248·8
40	1256·6	1264·5	1272·4	1280·3	1288·2	1296·2	1304·2	1312·2
41	1320·3	1328·3	1336·4	1344·5	1352·7	1360·8	1369·0	1377·2
42	1385·4	1393·7	1402·0	1410·3	1418·6	1427	1435·4	1443·8
43	1452·2	1460·7	1469·1	1477·6	1486·2	1494·7	1503·3	1511·9
44	1520·5	1529·2	1537·9	1546·6	1555·3	1564	1572·8	1581·6
45	1590·4	1599·3	1608·2	1617	1626·0	1634·9	1643·9	1652·9
46	1661·9	1671·0	1680·0	1689·1	1698·2	1707·4	1716·5	1725·7
47	1734·9	1744·2	1753·5	1762·7	1772·1	1781·4	1790·8	1800·0
48	1809·6	1819·0	1828·5	1837·9	1847·5	1857·0	1866·5	1876·1
49	1885·7	1895·4	1905	1914·7	1924·4	1934·2	1943·9	1953·7
50	1963·5	1973·3	1983·2	1993·1	2003	2012·9	2022·8	2032·8

Diam.	0	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
50	1963·5	1973·3	1983·2	1993·1	2003	2012·9	2022·8	2032·8
51	2042·8	2052·8	2062·9	2073·0	2083·1	2093·2	2103·3	2113·5
52	2123·7	2133·9	2144·2	2154·5	2164·8	2175·1	2185·4	2195·8
53	2206·2	2216·6	2227·0	2237·5	2248·0	2258·5	2269·1	2279·6
54	2290·2	2300·1	2311·5	2322·1	2332·8	2343·5	2354·3	2365·0
55	2375·8	2386·6	2397·5	2408·3	2419·2	2430·1	2441·1	2452·0
56	2463·0	2474·0	2485·0	2496·1	2507·2	2518·3	2529·4	2540·6
57	2551·8	2563	2574·2	2585·4	2596·7	2608	2619·4	2630·7
58	2642·1	2653·5	2664·9	2676·4	2687·8	2699·3	2710·9	2722·4
59	2734·0	2745·6	2757·2	2768·8	2780·5	2792·2	2803·9	2815·7
60	2827·4	2839·2	2851·0	2862·9	2874·8	2886·6	2898·6	2910·5
61	2922·5	2934·5	2946·5	2958·5	2970·6	2982·7	2994·8	3006·9
62	3019·1	3031·3	3043·5	3055·7	3068·0	3080·3	3092·6	3104·9
63	3117·2	3129·6	3142·0	3154·5	3166·9	3179·4	3191·9	3204·4
64	3217·0	3229·6	3242·2	3254·8	3267·5	3280·1	3292·8	3305·6
65	3318·3	3331·2	3343·9	3356·7	3369·6	3382·4	3395·3	3408·2
66	3421·2	3434·2	3447·2	3460·2	3473·2	3486·3	3499·4	3512·5
67	3525·7	3535·8	3552·0	3565·2	3578·5	3591·7	3605·0	3618·3
68	3631·7	3645	3658·4	3671·8	3685·3	3698·7	3712·2	3725·7
69	3739·3	3752·8	3766·4	3780·0	3793·7	3807·3	3821·0	3834·7
70	3848·5	3862·2	3876·0	3889·8	3903·6	3917·5	3931·4	3945·3
71	3959·2	3973·1	3987·1	4001·1	4015·2	4029·2	4043·3	4057·4
72	4071·5	4085·7	4099·8	4114·0	4128·2	4142·5	4156·8	4171·1
73	4185·4	4199·7	4214·1	4228·5	4242·9	4257·4	4271·8	4286·3
74	4300·8	4315·4	4329·9	4344·5	4359·2	4373·8	4388·5	4403·2
75	4417·9	4432·6	4447·4	4462·2	4477·0	4491·8	4506·7	4521·5
76	4536·5	4551·4	4566·4	4581·3	4596·3	4611·4	4626·4	4641·5
77	4656·6	4671·8	4686·9	4702·1	4717·3	4732·5	4747·8	4763·1
78	4778·4	4793·7	4809·0	4824·4	4839·8	4855·2	4870·7	4886·2
79	4901·7	4917·2	4932·7	4948·3	4963·9	4979·5	4995·2	5010·9
80	5026·5	5042·3	5058·0	5073·8	5089·6	5105·4	5121·2	5137·1
81	5153·0	5168·9	5184·9	5200·8	5216·8	5232·8	5248·9	5264·9
82	5281·0	5297·1	5313·3	5329·4	5345·6	5361·8	5378·1	5394·3
83	5410·6	5426·9	5443·3	5459·6	5476·0	5492·4	5508·3	5525·3
84	5541·8	5558·3	5574·8	5591·4	5607·9	5624·5	5641·2	5657·8
85	5674·5	5691·2	5707·9	5724·7	5741·5	5758·3	5775·1	5791·8
86	5808·8	5825·7	5842·6	5895·6	5876·5	5893·5	5910·6	5927·6
87	5944·7	5961·8	5978·9	5996·0	6013·2	6030·4	6047·6	6064·9
88	6082·1	6099·4	6116·7	6134·1	6151·4	6168·8	6186·2	6203·7
89	6221·1	6238·6	6256·1	6273·7	6291·2	6308·8	6326·4	6344·1
90	6361·7	6379·4	6397·1	6414·9	6432·6	6450·4	6468·2	6486·0
91	6503·9	6521·8	6539·7	6557·6	6575·5	6593·5	6611·5	6629·6
92	6647·6	6665·7	6683·8	6701·9	6720·1	6738·2	6756·4	6774·7
93	6792·9	6811·2	6829·5	6847·8	6866·1	6884·5	6902·9	6921·3
94	6939·8	6958·2	6976·7	6995·3	7013·8	7032·4	7051·0	7069·6
95	7088·2	7106·9	7125·6	7144·3	7163·0	7181·8	7200·7	7219·5
96	7238·2	7257·1	7276·0	7294·9	7313·8	7332·8	7351·8	7370·8
97	7389·8	7408·9	7428·0	7447·1	7466·2	7485·3	7504·5	7523·7
98	7543·0	7562·2	7581·5	7600·8	7620·1	7639·5	7658·9	7678·3
99	7697·7	7717·1	7736·6	7756·1	7775·6	7795·2	7814·8	7834·4
100	7854·0	7873·6	7893·3	7913·0	7932·7	7952·5	7972·2	7992

Diam.	0	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
0		·393	·785	1·178	1·571	1·963	2·356	2·749
1	3·142	3·534	3·927	4·32	4·712	5·105	5·498	5·89
2	6·283	6·676	7·069	7·461	7·854	8·247	8·639	9·032
3	9·425	9·817	10·21	10·6	11·0	11·39	11·78	12·174
4	12·566	12·96	13·35	13·74	14·137	14·53	14·92	15·32
5	15·708	16·10	16·49	16·89	17·28	17·67	18·06	18·46
6	18·85	19·24	19·635	20·03	20·42	20·81	21·21	21·60
7	21·99	22·38	22·78	23·17	23·56	23·96	24·35	24·74
8	25·13	25·53	25·92	26·31	26·7	27·1	27·49	27·88
9	28·27	28·67	29·06	29·45	29·85	30·24	30·63	31·02
10	31·42	31·81	32·2	32·59	32·99	33·38	33·77	34·17
11	34·56	34·95	35·34	35·74	36·13	36·52	36·91	37·31
12	37·7	38·10	38·49	38·88	39·27	39·66	40·06	40·45
13	40·84	41·23	41·63	42·02	42·41	42·8	43·2	43·59
14	43·98	44·38	44·77	45·16	45·55	45·95	46·34	46·73
15	47·12	45·52	47·91	48·3	48·7	49·09	49·48	49·87
16	50·26	50·66	51·05	51·44	51·84	52·23	52·62	53·01
17	53·41	53·8	54·19	54·59	54·98	55·37	55·76	56·16
18	56·55	56·94	57·33	57·73	58·12	58·51	58·91	59·3
19	59·69	60·08	60·48	60·87	61·26	61·65	62·05	62·44
20	62·83	63·23	63·62	64·01	64·4	64·8	65·19	65·58
21	65·97	66·37	66·76	67·15	67·54	67·94	68·33	68·72
22	69·12	69·51	69·9	70·29	70·69	71·08	71·47	71·86
23	72·26	72·65	73·04	73·44	73·83	74·22	74·61	75·0
24	75·40	75·79	76·18	76·58	76·97	77·36	77·75	78·15
25	78·54	78·93	79·33	79·72	80·11	80·50	80·9	81·29
26	81·68	82·07	82·47	82·86	83·25	83·65	84·04	84·43
27	84·82	85·22	85·61	86·0	86·39	86·79	87·18	87·57
28	87·97	88·36	88·75	89·14	89·53	89·93	90·32	90·71
29	91·11	91·5	91·89	92·28	92·68	93·07	93·46	93·86
30	94·25	94·64	95·03	95·43	95·82	96·21	96·6	97·0
31	97·39	97·78	98·18	98·57	98·96	99·35	99·75	100·14
32	100·53	100·92	101·32	101·71	102·1	102·49	102·89	103·28
33	103·67	104·07	104·46	104·85	105·24	105·64	106·03	106·42
34	106·81	107·21	107·6	108·0	108·38	108·78	109·17	109·56
35	109·96	110·35	110·74	111·13	111·53	111·92	112·31	112·7
36	113·1	113·49	113·88	114·28	114·67	115·06	115·45	115·85
37	116·24	116·63	117·02	117·42	117·81	118·2	118·6	119·0
38	119·38	119·77	120·17	120·56	120·95	121·34	121·74	122·13
39	122·52	122·9	123·31	123·7	124·1	124·49	124·88	125·27
40	125·66	126·06	126·45	126·84	127·23	127·63	128·02	128·41
41	128·81	129·2	129·6	129·98	130·38	130·77	131·16	131·55
42	131·95	132·34	132·73	133·12	133·52	133·91	134·3	134·7
43	135·09	135·48	135·87	136·27	136·66	137·05	137·44	137·84
44	138·23	138·62	139·02	139·41	139·8	140·19	140·6	140·98
45	141·37	141·76	142·16	142·55	142·94	143·34	143·73	144·12
46	144·51	144·91	145·3	145·7	146·08	146·48	146·87	147·26
47	147·65	148·05	148·44	148·83	149·23	149·62	150·0	150·4
48	150·8	151·2	151·58	151·97	152·37	152·76	153·15	153·55
49	153·94	154·33	154·72	155·12	155·51	155·9	156·29	156·69
50	157·08	157·47	157·86	158·26	158·65	159·04	159·44	159·83

Diam.	0	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
50	157·08	157·47	157·86	158·26	158·65	159·04	159·44	159·83
51	160·22	160·61	161·01	161·40	161·79	162·18	162·58	162·97
52	163·36	163·76	164·15	164·54	164·93	165·33	165·72	166·11
53	166·5	166·9	167·29	167·68	168·08	168·47	168·86	169·25
54	169·65	170·04	170·43	170·82	171·22	171·61	172·0	172·39
55	172·79	173·18	173·57	173·97	174·36	174·75	175·14	175·54
56	175·93	176·32	176·71	177·11	177·5	177·89	178·29	178·68
57	179·07	179·46	179·86	180·25	180·64	181·03	181·43	181·82
58	182·21	182·61	183·0	183·39	183·78	184·18	184·57	184·96
59	185·35	185·75	186·14	186·53	186·92	187·32	187·71	188·1
60	188·50	188·89	189·28	189·67	190·07	190·46	190·85	191·24
61	191·64	192·03	192·42	192·82	193·21	193·6	193·99	194·39
62	194·78	195·17	195·56	195·96	196·35	196·74	197·13	197·53
63	197·92	198·31	198·71	199·1	199·5	199·88	200·28	200·67
64	201·06	201·45	201·85	202·24	202·63	203·03	203·42	203·81
65	204·2	204·6	205·0	205·38	205·77	206·17	206·56	206·95
66	207·35	207·74	208·13	208·52	208·92	209·31	209·7	210·09
67	210·49	210·88	211·27	211·66	212·06	212·45	212·84	213·24
68	213·63	214·02	214·41	214·81	215·2	215·6	215·99	216·38
69	216·77	217·16	217·56	217·95	218·34	218·73	219·13	219·52
70	219·91	220·3	220·7	221·09	221·48	221·87	222·27	222·66
71	223·05	223·45	223·84	224·23	224·62	225·0	225·41	225·8
72	226·19	226·59	226·98	227·37	227·77	228·16	228·55	228·94
73	229·34	229·73	230·12	230·51	230·91	231·3	231·69	232·1
74	232·48	232·87	233·26	233·66	234·05	234·44	234·83	235·23
75	235·62	236·01	236·4	236·8	237·19	237·58	237·98	238·37
76	238·76	239·15	239·55	239·94	240·33	240·72	241·12	241·51
77	241·9	242·3	242·7	243·08	243·47	243·87	244·26	244·65
78	245·04	245·44	245·83	246·22	246·62	247·01	247·8	247·8
79	248·19	248·58	248·97	249·36	249·76	250·15	250·93	250·92
80	251·33	251·72	252·11	252·51	252·9	253·29	253·68	254·08
81	254·47	254·86	255·25	255·65	256·04	256·43	256·83	257·22
82	257·61	258·0	258·4	258·79	259·18	259·57	259·97	260·36
83	260·75	261·14	261·54	261·93	262·32	262·72	263·11	263·5
84	263·89	264·3	264·68	265·07	265·46	265·86	266·25	266·64
85	267·04	267·43	267·82	268·21	268·61	269·0	269·39	269·78
86	270·18	270·57	270·96	271·36	271·75	272·14	272·53	272·93
87	273·32	273·7	274·1	274·5	274·89	275·28	275·67	276·07
88	276·46	276·85	277·25	277·64	278·03	278·42	278·82	279·21
89	279·6	280·0	280·39	280·78	281·17	281·57	281·96	282·35
90	282·74	283·14	283·53	283·92	284·31	284·71	285·1	285·49
91	285·88	286·28	286·67	287·06	287·46	287·85	288·24	288·63
92	289·03	289·42	289·81	290·2	290·6	291·0	291·38	291·78
93	292·17	292·56	292·95	293·35	293·74	294·13	294·52	294·92
94	295·31	295·7	296·1	296·49	296·88	297·27	297·67	298·06
95	298·45	298·84	299·24	299·63	300	300·41	300·81	301·2
96	301·6	302·0	302·38	302·77	303·16	303·56	303·95	304·34
97	304·73	305·13	305·52	305·9	306·31	306·7	307·1	307·48
98	307·88	308·27	308·66	309·05	309·45	309·84	310·23	310·62
99	311·02	311·41	311·8	312·2	312·6	312·98	313·37	313·77
100	314·16	314·55	314·94	315·34	315·73	316·12	316·52	316·92

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